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Disposition of the High Grade

Smoking as a Function of the State

The Importance of "Refresher" Work in
Professional Advancement

The Importance of Sheltered Work Shops in the Care
of Mental Patients

Manual Training of Low Grade

A Statistical Review of Occupational Therapy in
Civil State Hospitals

An Inventory of Mental Clinic Facilities
Exclusive of New York

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THE IMPORTANCE OF THE VEGETATIVE NERVOUS SYSTEM IN MENTAL DISORDERS

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The study of the vegetative nervous system from either the anatomical, physiological or the pathological standpoint, has rapidly advanced to the foreground in the last 15 years and the importance of its investigation in mental conditions is being greatly emphasized.

We are especially indebted to H. Claude and his pupils for the biologic investigation of mental conditions in relation to imbalance of the vegetative nervous system. It has been through the study of thousands of records that the French school has been able to point out the important biologic component of mental disorders.

For a better understanding of the clinical tests that actually are in use to detect abnormal conditions of the vegetative nervous system, and for a better evaluation of the physiologic significance of this system, I feel it necessary to review briefly the most important data of its anatomy and physiology. Knowledge of the organic aspect will enable us to follow more closely the possible pathways through which exogenous or endogenous stimuli, either organic or psychic in nature, may result in vegetative imbalance and possibly subsequent mental pathology.

ANATOMY OF THE VEGETATIVE NERVOUS SYSTEM

I shall only attempt a brief survey of the more recent anatomical data which have been brought out by the recent investigations of Greving, Terni, Poljack, Pines, etc.

As for the cerebrospinal nervous system, we have in the vegetative nervous system a central portion and a peripheral portion. The central portion is formed by various nuclei controlling the action of the peripheral system and mainly located in the diencephalon. The peripheral portion includes the various groups of cells located in the mesencephalon, medulla oblongata and spinal cord, (cervical, dorsal, lumbar and sacral segments). It is a well

known fact that the vegetative nervous system is divided into a cranio-sacral system, "the parasympathetic system" and into a dorso-lumbar system, "the sympathetic system." Sympathetic and parasympathetic constitute, then, the peripheral division of the vegetative nervous system and are both somewhat antagonistic to each other in their physiological manifestations. (Fig 1.)

Where are the vegetative nerve cells located in the spinal cord? Bok¹ demonstrated in 1922, that they are located in the lateral horn. Later on Terni² and Poljack³ confirmed and completed the findings of Bok. Altogether, the area where the vegetative nervous cells are located, is known as the area intermedio-lateralis. From the cells of this area the axones are directed towards the anterior root of the cerebrospinal system which they follow to reach the lateral chain of ganglia, i. e., the sympathetic chain, thus forming the pre-ganglionic fibre or white ramus, because of the existence of myelin sheaths surrounding the nerve fibres. In the sympathetic ganglia the preganglionic fibre establishes a contact by synapsis with the cell of the ganglion itself. This same cell gives origin to a second neurone connecting the ganglion with the peripheral viscerae. The second neurone, which is unmyelinated, is also known as the gray ramus or postganglionic ramus. (Fig. 2.)

There is a controversy still going on as to the extension of the spinal centers of the sympathetic system. Gaskell⁴ once thought that only the cells of the column of Clarke were to be considered as sympathetic in function. Later on this view was discarded by further investigations of Mott and Ziehen. Furthermore, for Sherrington,⁵ Langley⁶ and Jakobsohn⁷ the sympathetic nerve cells do not only occupy the dorsal segment of the spinal cord where the columns of Clarke are located, but extend also in the lumbar segment of the spinal cord, where they can be located as low as the third lumbar segment (Greving⁸). Other investigators also, among whom are Waldeyer, Winkler,⁹ and Greving, believe that the sympathetic centers also extend in the cervical segments of the spinal cord. The largest number of sympathetic cells are, however, located in the dorsal region between the third dorsal segment and fifth dorsal segment and between the eleventh dorsal and the first lumbar segment.

While the spinal centers for the sympathetic nervous system are

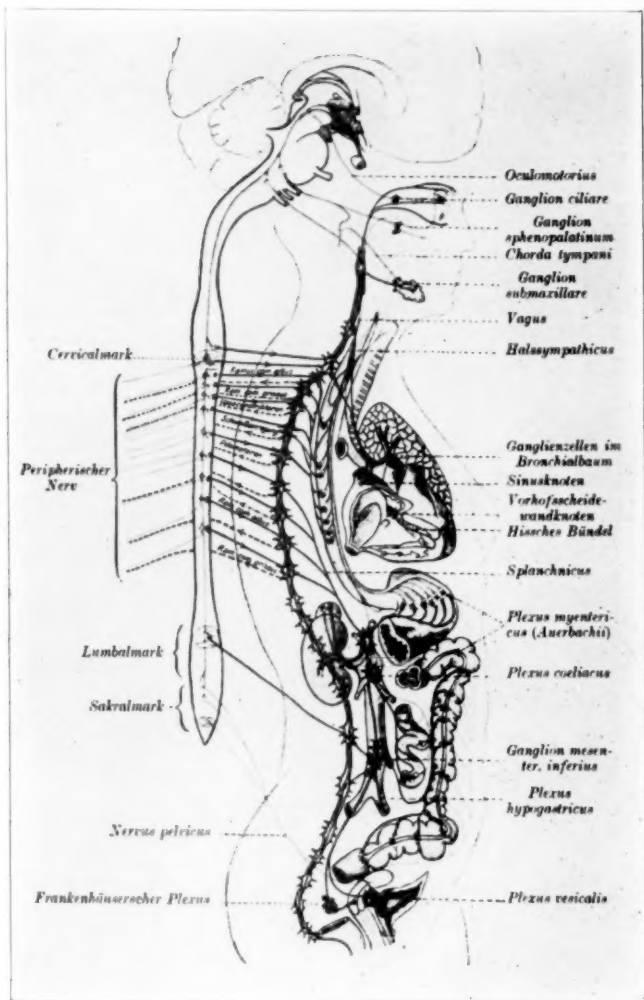
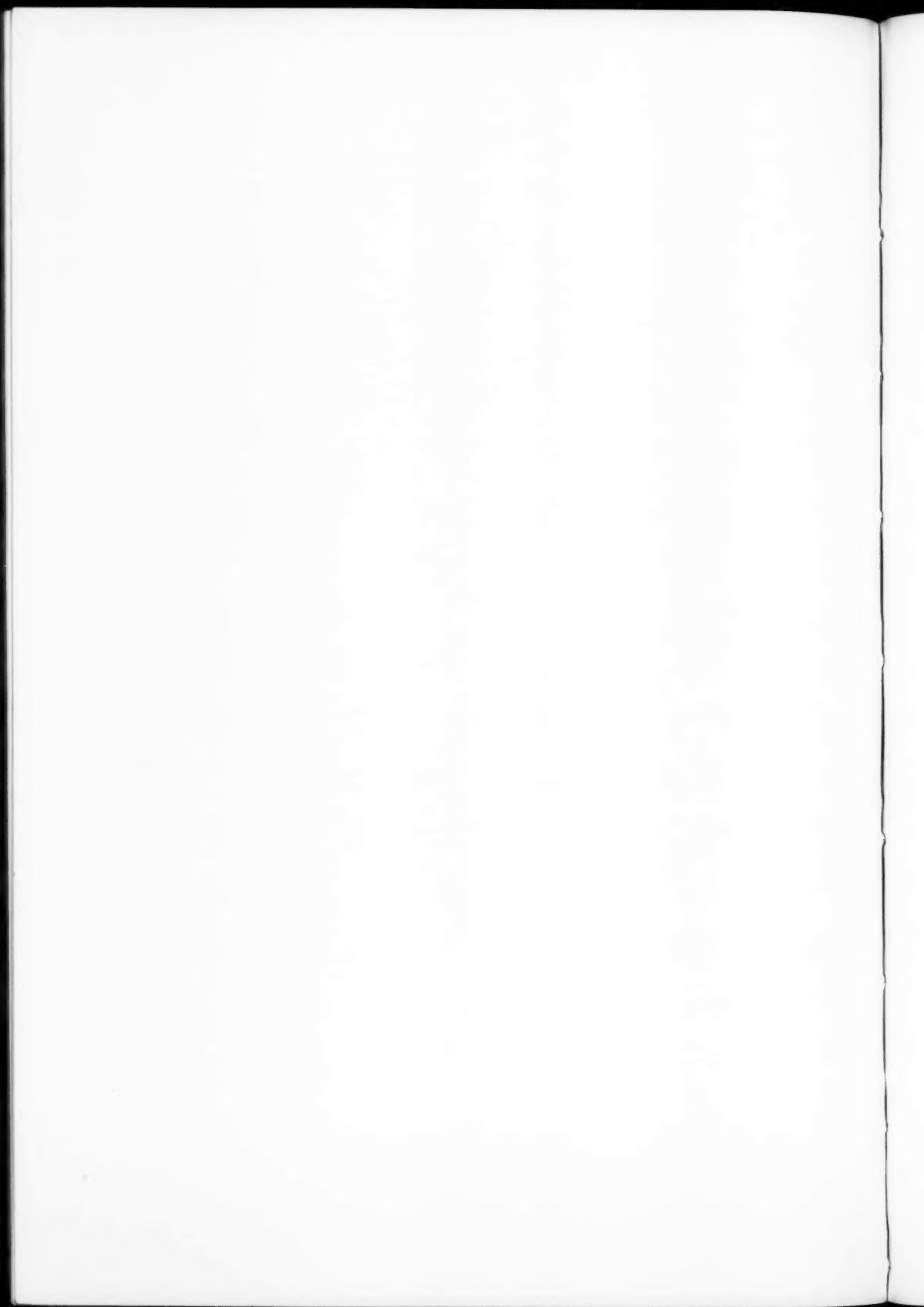


Fig. 1





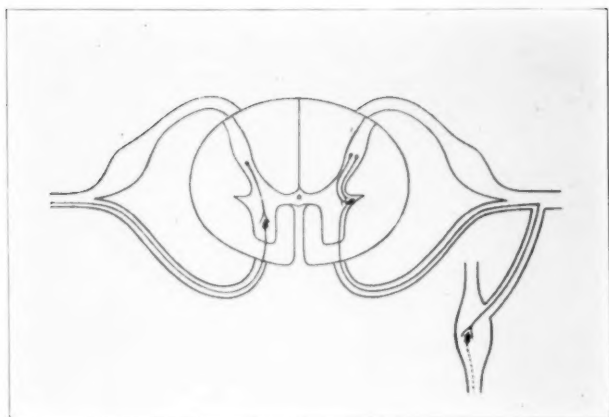


Fig. 2



Fig. 3



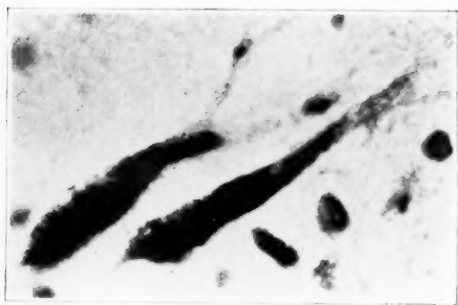


Fig. 4

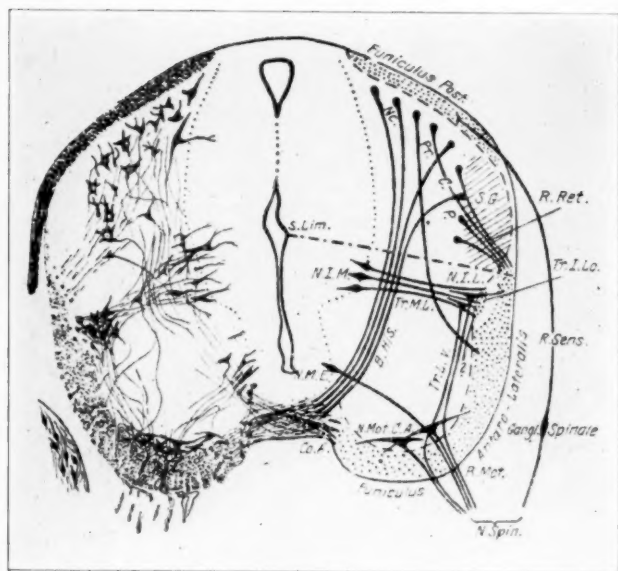


Fig. 5



mainly located in the dorsal and lumbar portion of the spinal cord, the centers of the parasympathetic system are located in the medulla oblongata and in the sacral portion of the spinal cord. In the medulla oblongata the centers are mainly represented by the nuclei of origin of the vagus while in the sacral region of the spinal cord, the centers are represented by groups of cells occupying the same topography as the cells of the sympathetic system in the dorsal region. In order to establish a distinction between the centers of the dorso-lumbar region and the center of the sacral region, Grev-ing has proposed to term the cells of origin of the sympathetic system as nucleus visceralis intermedio lateralis superior and the cells of origin of the parasympathetic system located in the sacral region, as nucleus visceralis intermedio lateralis inferior. (Fig. 3.)

Is there any morphological characteristic for the cells of the vegetative nervous system? According to various investigators the vegetative cells differ from the usual nerve cells of the cerebrospinal system because of their peculiar shape, club or spindle appearance (Fig. 4). Their nucleus is quite large and possesses a clear-cut nucleolus. The amount of the cytoplasm which is usually deeply stained is small, as is the size of the Nissl bodies.

Not all the cells giving origin to the vegetative nerve system are collected in the so-called nucleus intermedio lateralis. Some of them, as a matter of fact, occupy a more medial location closer to the central canal of the spinal cord and constitute a small nucleus known as the nucleus intermedio-medialis (Fig. 5). The two nuclei, the nucleus intermedio lateralis and the nucleus intermedio medialis are connected by fibres known as the tractus mediano lateralis. From the nucleus intermedio lateralis the main group of preganglionic fibres originates, forming the so-called tractus latero-ventralis which leaves the spinal cord with the anterior root from which it later on separates to reach the sympathetic ganglia of the lateral chain.

Sympathetic and parasympathetic system send their fibres to the organs of vegetative life among which are the internal glands, the heart, the blood vessels and the lungs, the stomach, the intestine, etc. It is easy to understand then, the great importance that sympathetic and parasympathetic action have in the performance of the vegetative functions.

While the efferent pathway of the vegetative system is quite well established, i. e., from the nucleus intermedio lateralis, to the lateral ganglionic chain via the anterior roots of the spinal cord, the agreement has not yet been reached in regard to the afferent pathway, i. e., the pathway through which stimuli are brought from the periphery to the spinal vegetative centers. Receptor apparatus, some of which seem to be of sympathetic nature, have been described all the way through in the heart, in the bronchii, in the intestines, in the lungs, etc. From these receptors, fibers have been found directed towards the vegetative centers through, for instance, the splanchnic nerves or the vagus nerves. Jonesco,¹⁰ among others, mentions the occurrence of efferent fibres from the heart and aorta through the ganglion stellatum and the ganglion cervicalis superior, to the spinal cord. Dejerine¹¹ also mentions afferent fibres in the vagus nerve. How all these afferent fibres reach the spinal cord is not as yet well established. The general belief is that the vegetative afferent impulses reach the spinal cord through the posterior roots. Although this is generally admitted, experiments of Lehman¹² are in favor of the possibility that afferent fibres do also follow the anterior root. Foerster,¹³ also, who has performed so many posterior radicotomy for relief of tabetic crises, strongly believes that afferent fibres are carried to the spinal cord through the anterior root system.

In the same way as for the afferent fibres of the cerebrospinal system, which have their cell of origin in the posterior spinal ganglion, there must also be for the afferent fibres of the vegetative nervous system, a cell of origin. Where is this cell located? According to experiments of Langley, Scaffidi,¹⁴ Roussy and others, the cell of origin of the afferent system is presumably located in the posterior spinal ganglion which contains the cell of origin of the afferent fibers of the cerebrospinal system. Recent findings of Rossi¹⁵ have proved the exactitude of the experimental work as this author has been able to find in embryo of birds, (*passera sarda*) cells of the posterior spinal ganglion, the peripheral prolongment of which enters the ramus communicans of the sympathetic chain (Fig. 6). The belief is then quite general that the afferent stimuli from the vegetative organs reach the spinal cord through the posterior root fibres belonging to the afferent cerebrospinal system. The stimuli

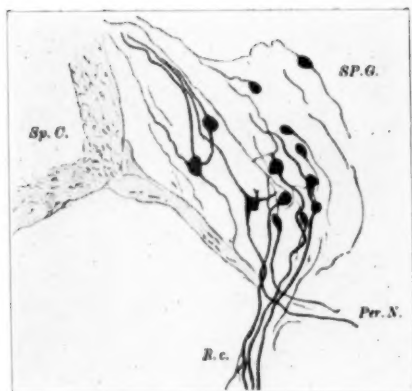
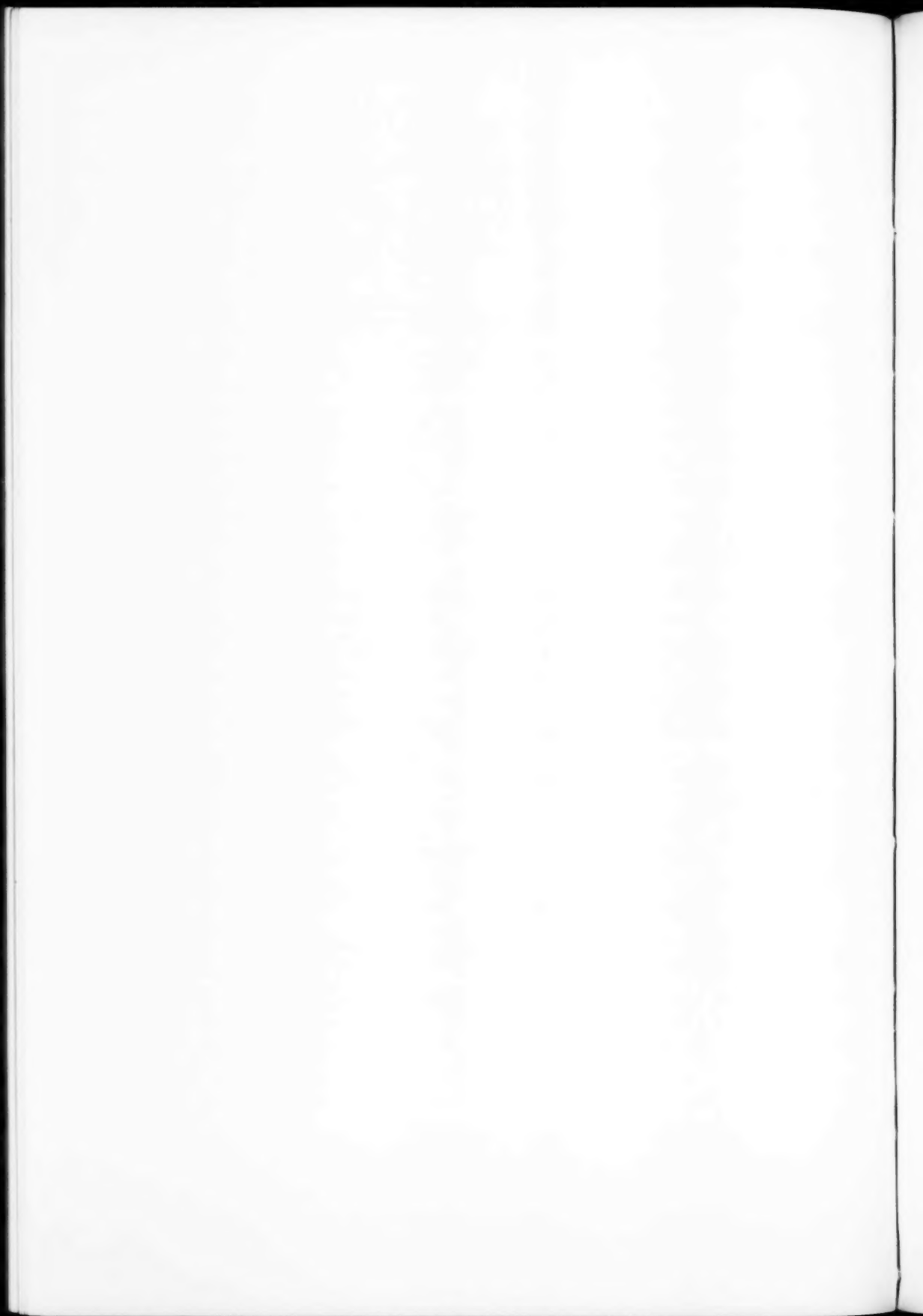


Fig. 6



Fig. 7





thus brought in the spinal cord may partly be reflected over the cells of the nuclei intermedio medialis and lateralis from where motor impulses may be carried to the ganglionic cells of the lateral chain.

Besides the sympathetic and parasympathetic division there is also another portion of the vegetative nervous system which is still more autonomic than the two above-mentioned and which is represented by groups of cells directly located in some of the viscera as for instance the intestine where they form the so-called plexus of Auerbach. While the morphology of these centers has been somewhat investigated, (Fig. 7) very little is known as to the extent of their autonomic function.

How are the connections established between the vegetative centers located in the diencephalon and the centers located in the medulla oblongata or in the spinal cord? The connections must be efferent and afferent in type.

(a) *Efferent.* They have not been anatomically demonstrated as no focal lesion is as yet known, following which a pure vegetative syndrome originates. Probably the fibres do not form a unique bundle, but are scattered throughout the transverse section of the spinal cord. The majority of authors, however, are inclined to believe that the main bulk of the fibres connecting the diencephalon with the intermedio lateral cells of the spinal cord are located in the lateral column (Cajal, Poljack, Terni). For Poljack some fibres must be also located in the anterior column. According to Rothfeld¹⁶ there is a particular bundle of myelinated fibres located on each side of the central canal of the spinal cord and which he has been able to follow throughout the spinal cord, which he believes to constitute part, at least, of the connecting fibres. On the other hand, Marburg¹⁷ has described a bundle of fibres connecting the upper cervical segments with the medulla oblongata and which he termed "fasciculus substantia gelatinosa centralis" which apparently ends in the nucleus fasciculus substantia gelatinosa located on the floor of the fourth ventricle. Although in this bundle ascending degenerations may be found, which fact would point against its efferent nature, it might be possible that some at least of the fibres of the Marburg bundle do represent the continuation of the Rothfeld bundle in the spinal cord, the two bundles forming part of the efferent

system connecting the diencephalon with the medulla and with spinal cord centers.

According to Langley, the fibres controlling the pilomotor reflex are located in the lateral column of the spinal cord where also vasomotor fibres are found, according to Kocher.¹⁸ In the same lateral column, Schlessinger, Karplus and Kreidl¹⁹ localize fibers controlling the sweat secretion. Somewhat discordant from the majority of the investigators, are Mosso and Pellacani²⁰ who locate the vegetative fibres for the control of the bladder in the posterior column.

(b) *Afferent.* According to Spiegel and Bernis,²¹ the afferent fibres of the vegetative system are located in the anterior column of the spinal cord as following the section of this column centripetal stimuli from the viscera are not allowed to reach the upper levels.

DIENCEPHALIC CENTERS OF THE VEGETATIVE NERVOUS SYSTEM

It is generally admitted that the diencephalon contains most of the important regulating centers of the vegetative nervous functions. The continuity of this region with the pituitary structure makes it the more interesting and explains some of the difficulties that are encountered in correlating vegetative disturbances in cases of lesions of the pituitary body.

One of the important nuclei which are supposed to represent regulating center for the vegetative nerve function is the so-called nucleus supra-opticus located dorsally and ventrally to the optic tract (Fig. 8). In this nucleus which constitutes a very old phylogenetical structure (Röthig)²² we may distinguish a dorsal, a medial and a ventral portion.

Important, also, as a vegetative centre, is the region of the tuber cinereum. Not all the cells of this region are, however, considered as vegetative. As a matter of fact, Greving considers as a vegetative centre, only the nucleus mamillaris cinereus located laterally to the corpus mamillaris and quite distinct from the nuclei magnocellularis and parvocellularis which constitute the mamillary body (Winkler). It follows that the nuclei tuberis proper which Spiegel and Zweig²³ consider as a rather young phylogenetic structure as well as the large nucleus mamillo infundibularis of Malone are not as yet considered as vegetative centers.

In the region of the tuber cinereum two other nuclei which have

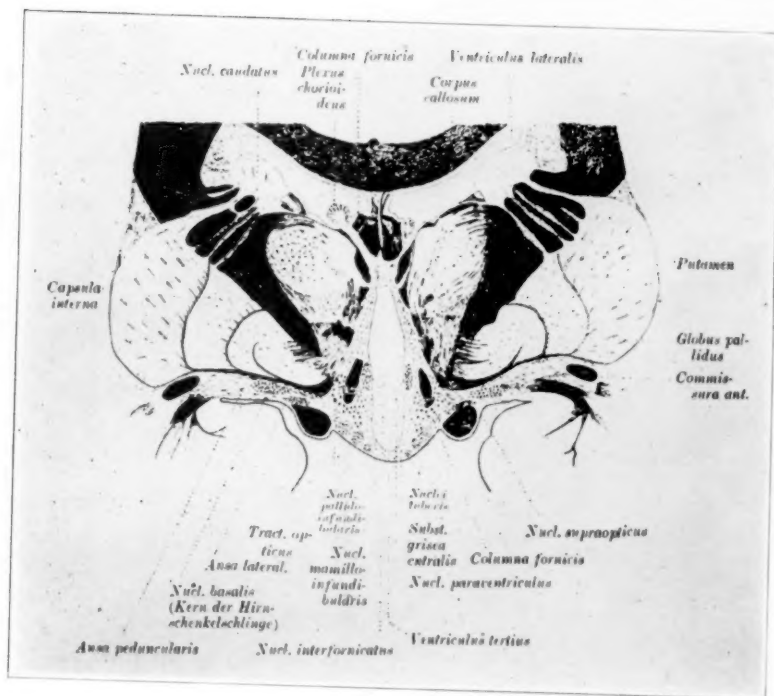
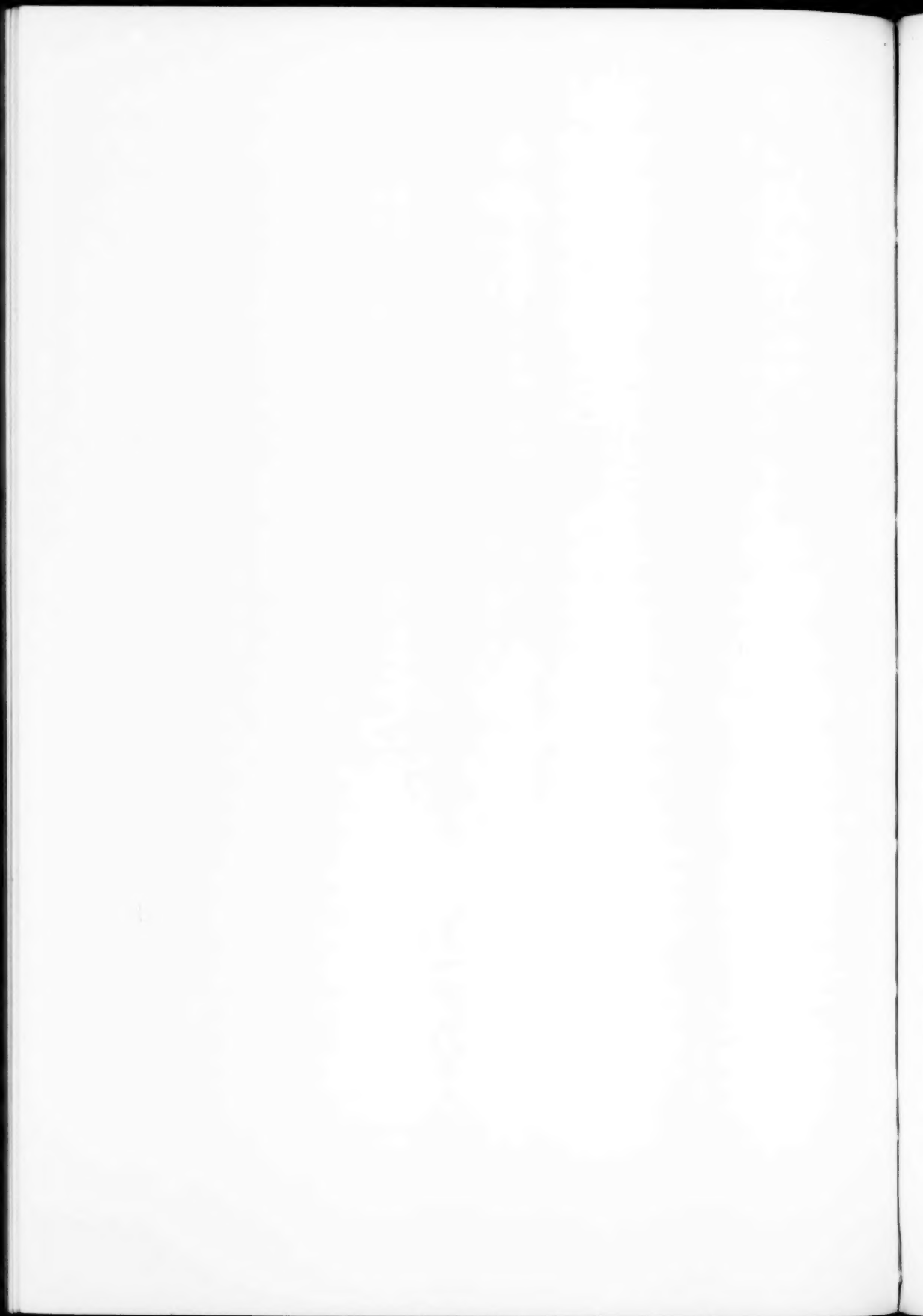


Fig. 8





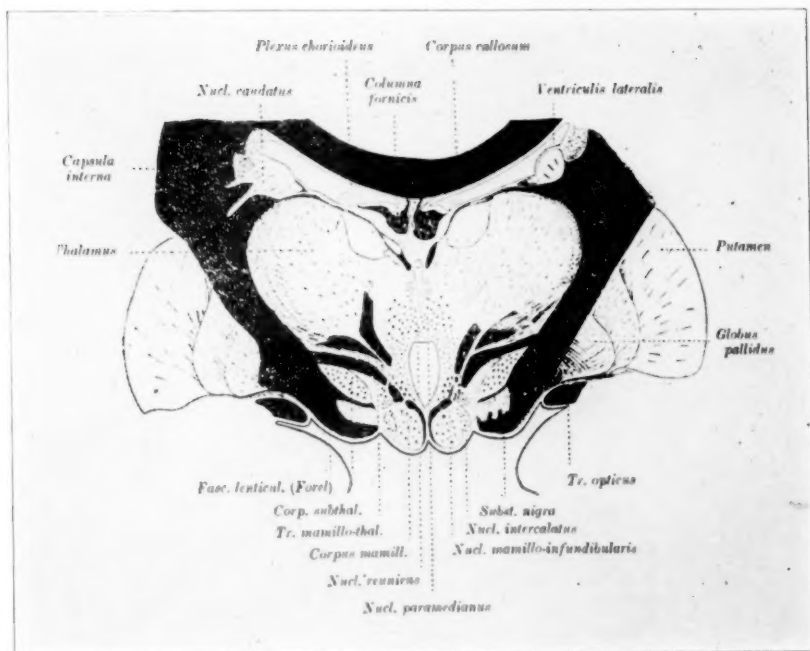


Fig. 9



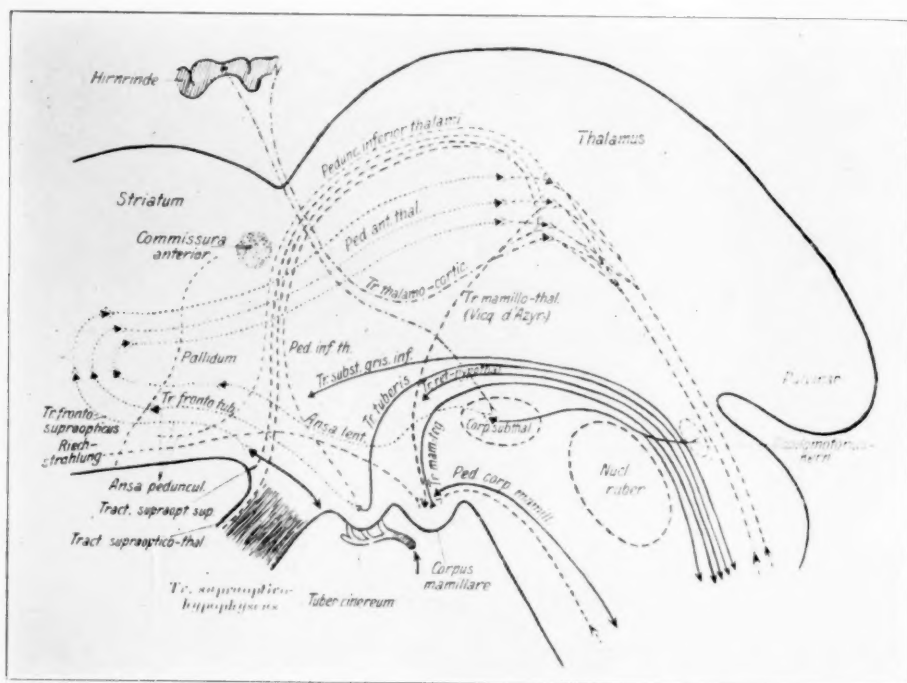


Fig. 10

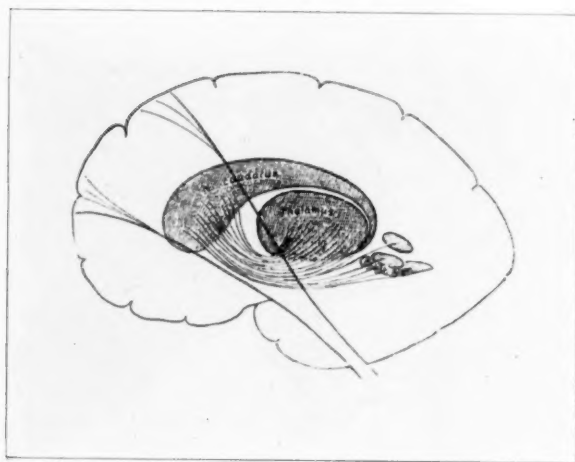


Fig. 11



been described by Greving, the nucleus pallido-infundibularis and the nucleus interforficatus, (Fig. 8) are also considered of vegetative nature.

On each side of the infundibular recess of the third ventricle an important group of cells is located known as the nucleus paraventricularis. This nucleus has a particularly important vegetative function because of its connections with the nucleus supraopticus which in turn is connected with the pituitary gland.

Another group of cells which possess morphological characteristics proper to the vegetative elements; is the nucleus reuniens which is a portion of the nucleus medialis thalami and which is located as the name indicates, along the midline, uniting the thalamus of one side with the opposite one (Fig. 9).

Scattered among the above mentioned groups of cells, there are numerous elements which form the so-called substantia grisea centralis, one portion of which is known as the substantia reticularis hypothalami (Malone²⁴) important for the fact of its connections with more caudal structures.

The tract connections of the diencephalic centers with the mesencephalic centers, the centers of the medulla oblongata and of the spinal cord, are not as yet well established. Only a few tracts are mentioned in Greving's monograph and among them the tractus tuberis which connects the region of the tuber cinereum with more distally located areas (Fig. 10). Along side of the tractus tuberis two other tracts seem to fulfill the same function. They are the tractus reticularis hypothalami and the tractus substantia grisea, infundibuli which establish connections between the substantia grisea centralis and substantia reticulata hypothalami with other caudal structures.

Another very old connection between the frontal region of the brain and its caudal portion is represented by the so-called tractus striothalamicus or striopeduncularis or "comb system" of Edinger²⁵ (Fig. 11). This tract establishes connections with the various regions intercalated between the frontal portion of the caudate nucleus and the region of the pes pedunculi of the brain. It is presumable that fibres belonging to this system may also establish connections between the various vegetative centers and more caudal structures of the brain and spinal cord.

The same holds true for the old olfactory basal bundle of Wallenberg²⁶ which represents a very old phylogenetical structure connecting fronto-caudally all the various structures located at the base of the brain (Fig. 12).

Other connections between the vegetative centers and their caudal structures may be represented by the so-called tractus mamillo tegmentalis (Fig. 13) which tract originates in the lateral area of the corpus mamillaris, i. e., in the area where the nucleus mamillaris cinereus is located, and ends in the nucleus of Gudden from where the fasciculus of Schutz originates. This fasciculus may then establish indirect connections between the mamillary region and other caudally located structures. The same applies to the so-called pedunculus corporis mamillaris which from the corpus mamillaris can be followed caudalwards, partly at least, reaching the substantia nigra (Ferraro).

Very little is known of the interrelationship from the anatomical standpoint, between the various diencephalic vegetative nuclei. Recent investigations, however (Greving and Pines²⁷) have established a very important connection between the nucleus paraventricularis and the nucleus supraopticus through the tractus paraventricularis cinereus supraopticus through the tractus paraventricularis cinereus (Fig. 14). From the nucleus supraopticus another tract originates and is described by Greving as the tractus supraopticus hypophyseus connecting the nucleus supraopticus with the pituitary body (Fig. 15).

The vegetative centers are also connected with frontally located areas. Among the tracts establishing such connection I shall only mention the tractus fronto-supraopticus and the tractus fronto-tuberalis connecting the frontal area of the brain with the nucleus supraopticus and the nuclei tuberis. Finally, connection between the tuber cinereum and the nucleus supraopticus with the thalamus, might be established through the tractus supraopticus superior and through the inferior thalamic peduncle (Fig. 16).

Surrounding the region of the tuber cinereum we have other very important structures represented by the corpus striatum, the corpus sub-thalamicum and more caudally located, the substantia nigra. How we should consider these structures from the vegetative standpoint is not as yet well established. One fact is sure and this is the

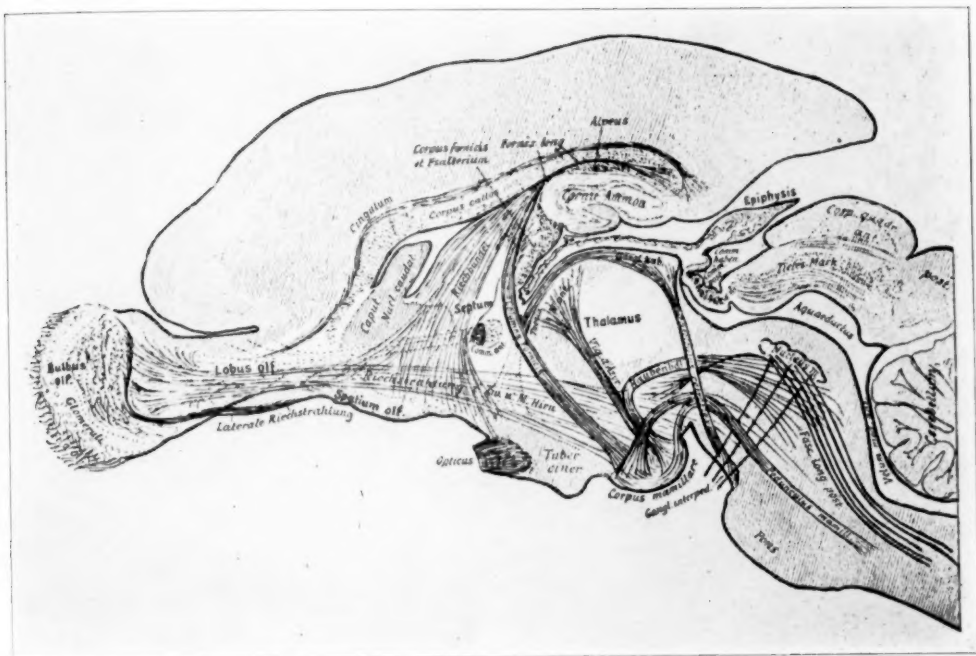
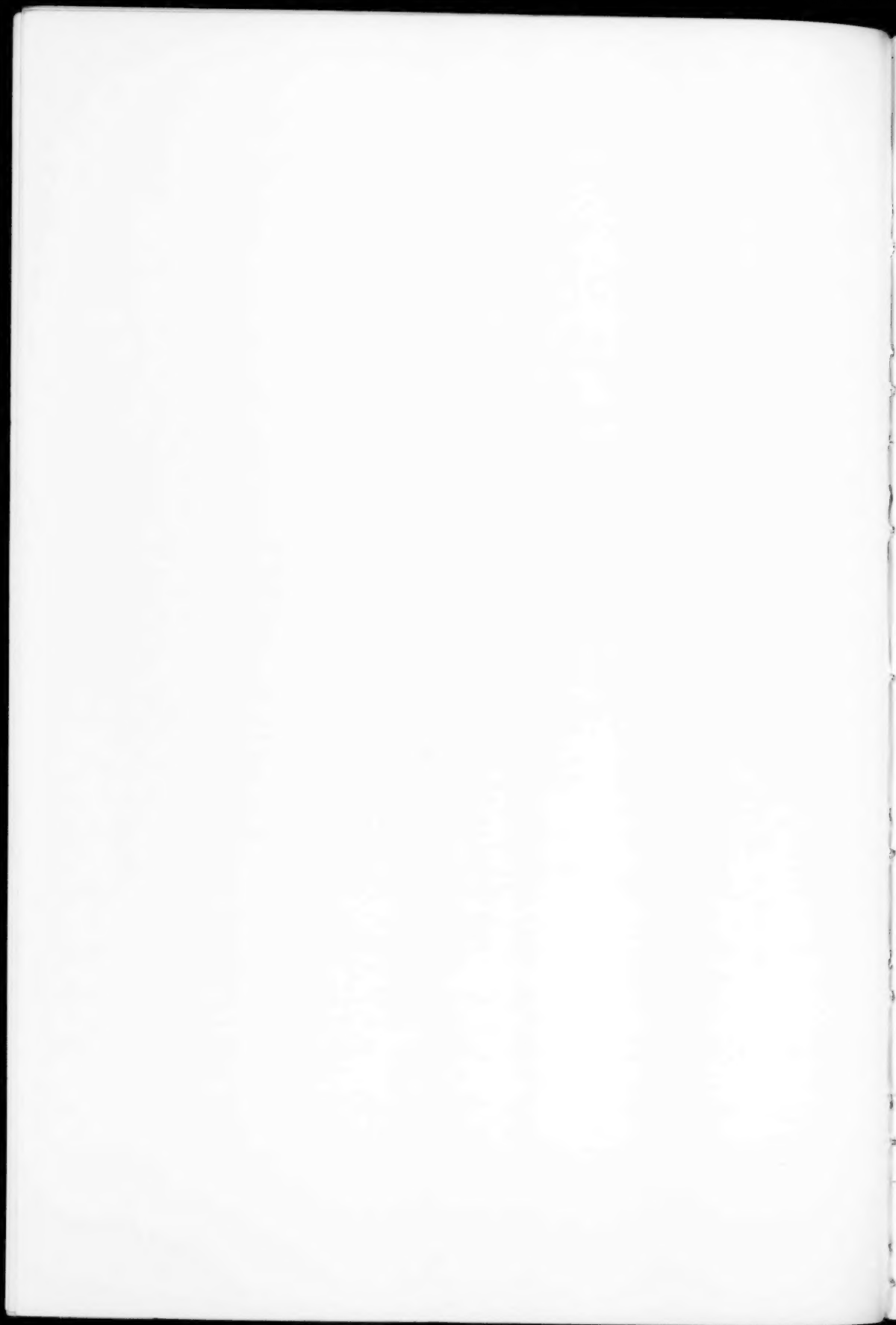
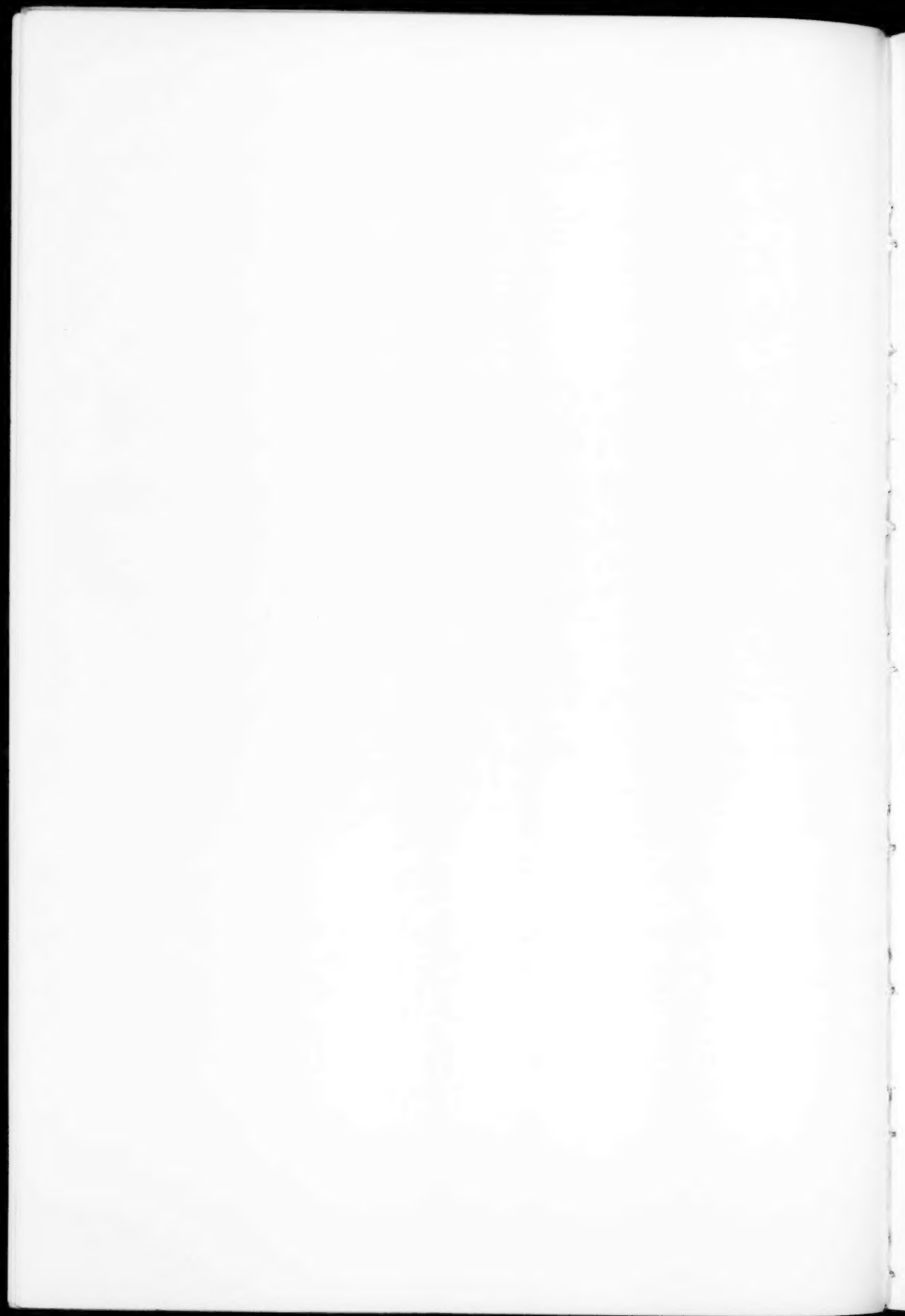


Fig. 12





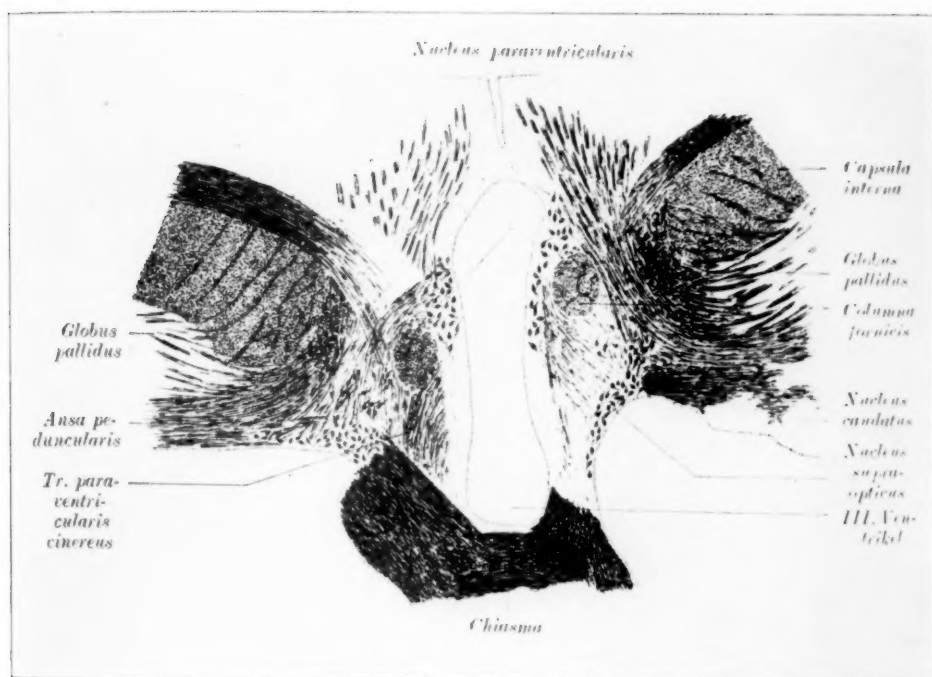


Fig. 14

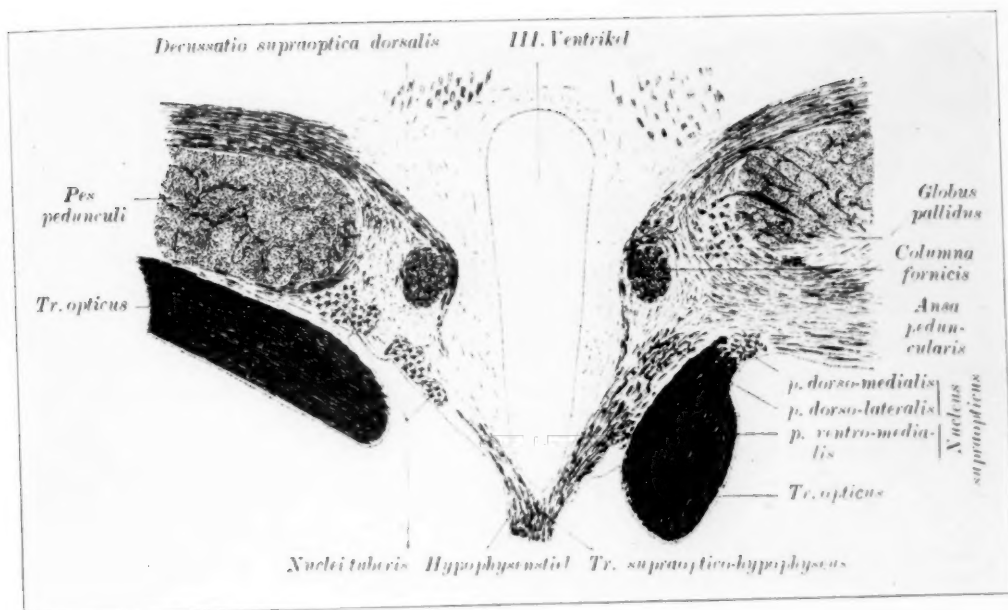
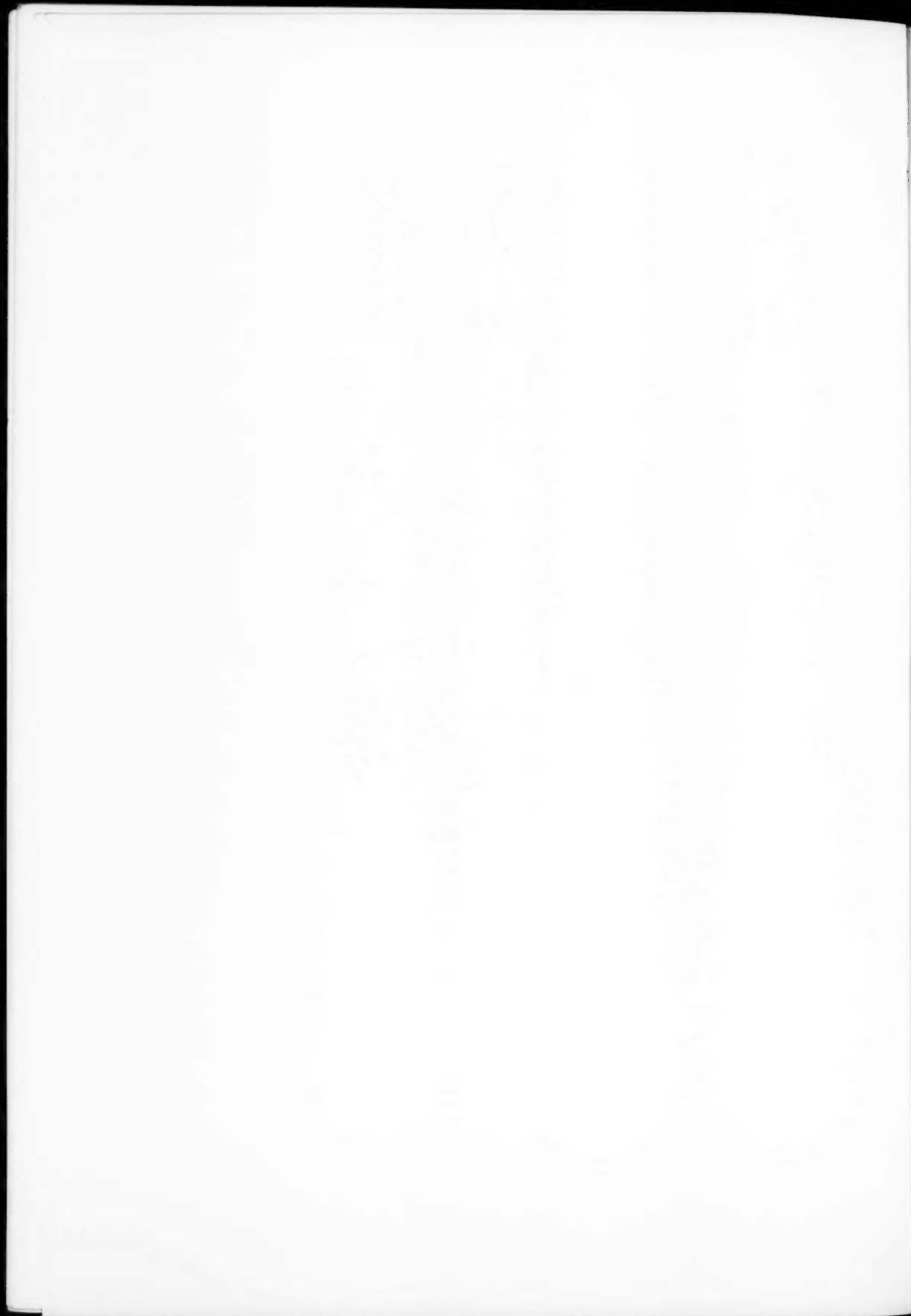


Fig. 15



anatomical one which indicates a close relationship between the corpus striatum, and the tuber cinereum by means of the commissura of Meynert. Connections are also known between the corpus striatum, corpus sub-thalamicum and the substantia nigra. If, on the other hand we recall the results of physiological and pathological data establishing that in the above mentioned structures, centers are presumably located for the control of vegetative functions our doubt is justified that part at least of their function must have a vegetative significance.

MESENCEPHALIC CENTER OF THE VEGETATIVE NERVOUS SYSTEM

With the exception of the substantia grisea contralis, which may have a wider significance, the vegetative centers in the mesencephalon are mainly limited to the centers controlling the pupillary reactions. From the early work of Majano²⁸ to the work of Gudden²⁹ and Levinsohn,³⁰ Edinger, Perlia,³¹ Panegrossi³² and more recently, the work of Spiegel and Zweig, a continuous attempt has been made to locate the center for the pupillary reaction. The nucleus medianus of Perlia is, according to Panegrossi, a much older phylogenetic structure than the nucleus of Westphal Edinger and according to Spiegel and Zweig, represents the center of the pupillary reflex while the Westphal-Edinger nucleus is the center for accommodation. According to Behr,³³ (1924) followed by Greving, the center for accommodation, and for reaction to light is unique as there is no anatomical division between the nucleus medianus and the nucleus of Westphal-Edinger.

How are the centers controlling the various vegetative functions distributed in the diencephalon? Without going into details of the experiments, following which the vegetative mechanisms have been located in the various supposed vegetative centers, I report a table based on Greving's review of the literature.

Besides the diencephalon the medulla oblongata seems to possess a very important control of some of the vegetative functions.

Important parasympathetic centers are there represented by the nuclei of the vagus (Fig. 17). The dorsal one constitutes the motor center of innervation for all the unstripped muscles of the bronchii, lungs, esophagus, stomach, heart, etc., while the nucleus ambiguus takes care of the innervation of the stripped muscular sys-

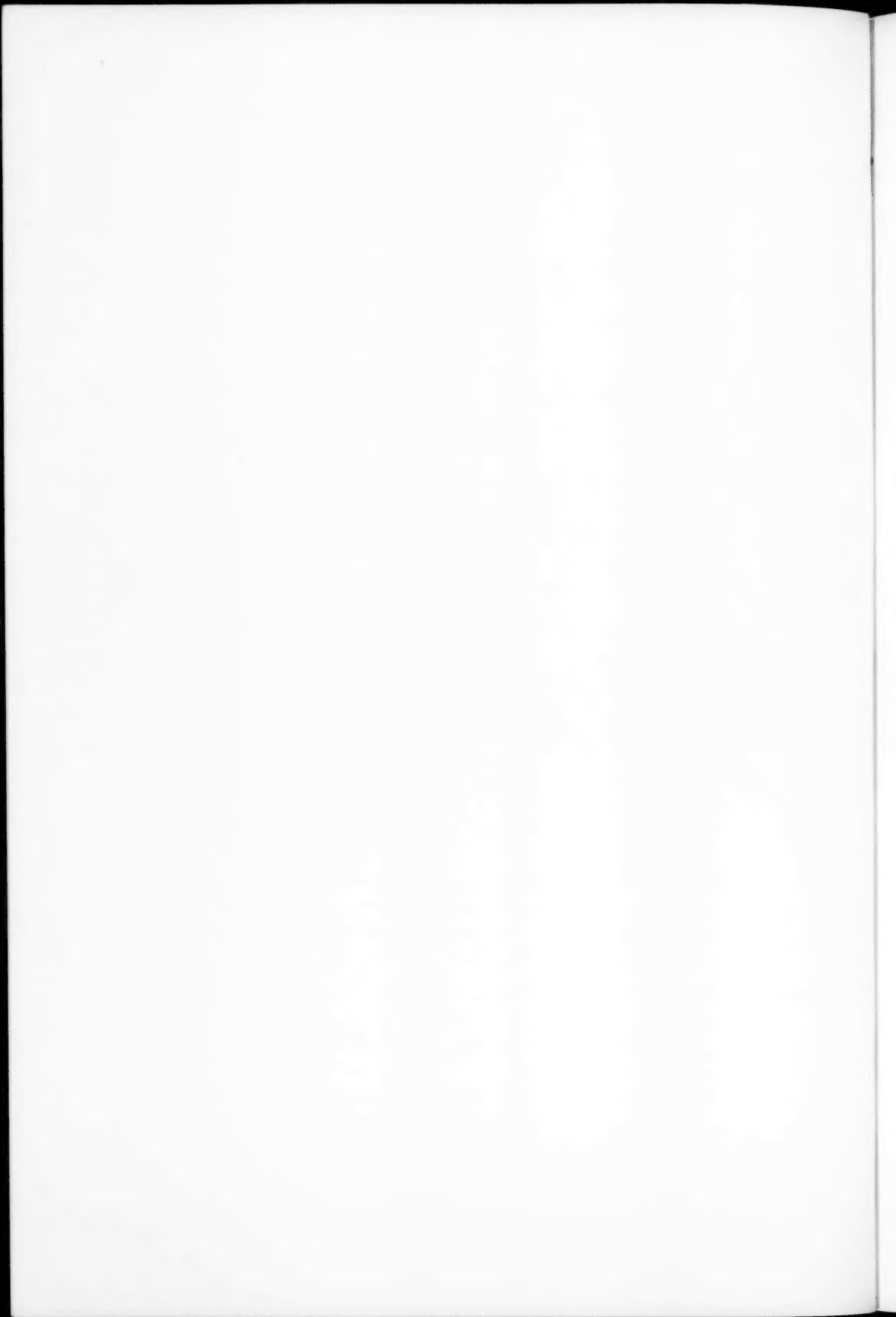
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TABLE 1. VEGETATIVE FUNCTIONS LOCALIZED IN THE DIENCEPHALON

<i>Function</i>	<i>Location</i>	<i>Authors</i>
Heat regulation	Tuber cinereum Corpus striatum	Isenschmied, Krehl d'Antona
Vasomotor and sudorific regulation	Corpus subthalamicus	Karplus and Kreidl Schrottenbach
Unstripped muscles of the eyes	Corpus subthalamicus	Karplus and Kreidl
Unstripped muscle of the bladder	Corpus subthalamicus	Nussbaum Bechterew Karplus and Kreidl
Water metabolism and Carbohydrate metabolism	Floor of the fourth ventricle	Claude-Bernard
Water metabolism and Carbohydrate metabolism	Corpus mamillaris	Ekhardts.
Water metabolism and Carbohydrate metabolism	Hypothalamus in general	Aschner-Leschka
Protein metabolism	Hypothalamus	Leschka-Schneider-Grafes
Gastro-intestinal tract, uterus and vaginal contractions	Central portion of the diencephalon	Ott, Ekhard, Attanasiew-Bechterew, Aschner
Respiration	Hypothalamus	Schrottenbach
Respiration	Pedunculus corpori mamillaris	Bechterew
Respiration	Substantia nigra	Jurmann
Tonus regulation	Substantia nigra	Brissaud-Trextiakoff-P. Marie, Lewy, Jakob
Tonus regulation	Red nucleus	Rademaker-Magnus
Sleep regulation	Central gray matter of the third ventricle	Mauthner

tem. Laterally to the nucleus dorsalis of the vagus, there is the nucleus tractus solitarius which receives sensory fibres the trophic center of which are the ganglion nodosum and jugularis.

Among the vegetative functions controlled by the medulla oblongata, mention may be limited to the sugar, water and salt metabolism. It is a well-known experiment, the one of Claude Bernard, by which glycosuria follows the puncture of the floor of the fourth ventricle. The center apparently lies between the nucleus of the acusticus and nucleus of the vagus. According to Brugsch, Dresel and Loew,³⁴ the puncture of the dorsal portion of the vagus produces hypoglycemia in contrast with hyperglycemia following puncture of the ventral portion. It is a well-known fact, also, that puncture of the floor of the 4th ventricle is followed by polyuria and increased salt content of the urine.



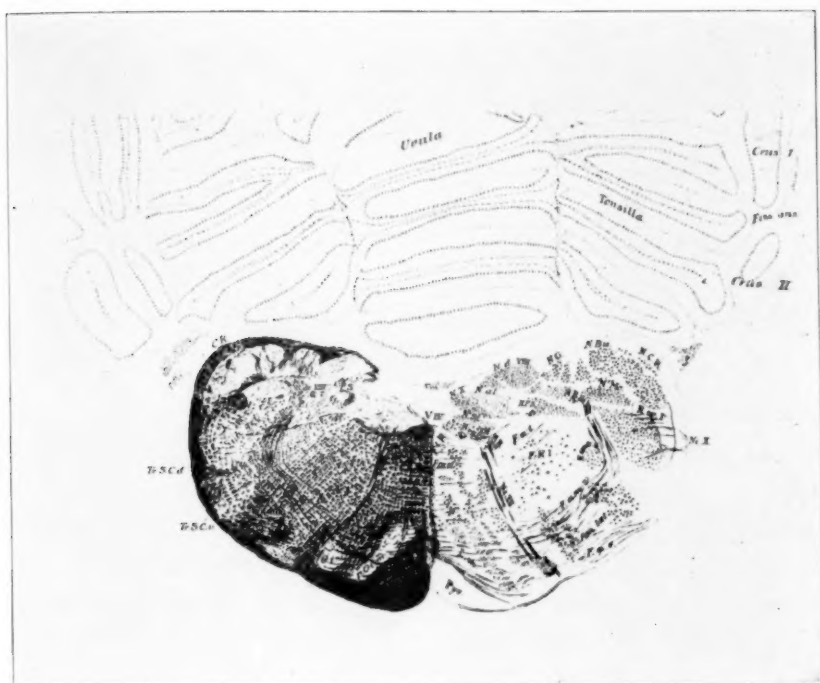
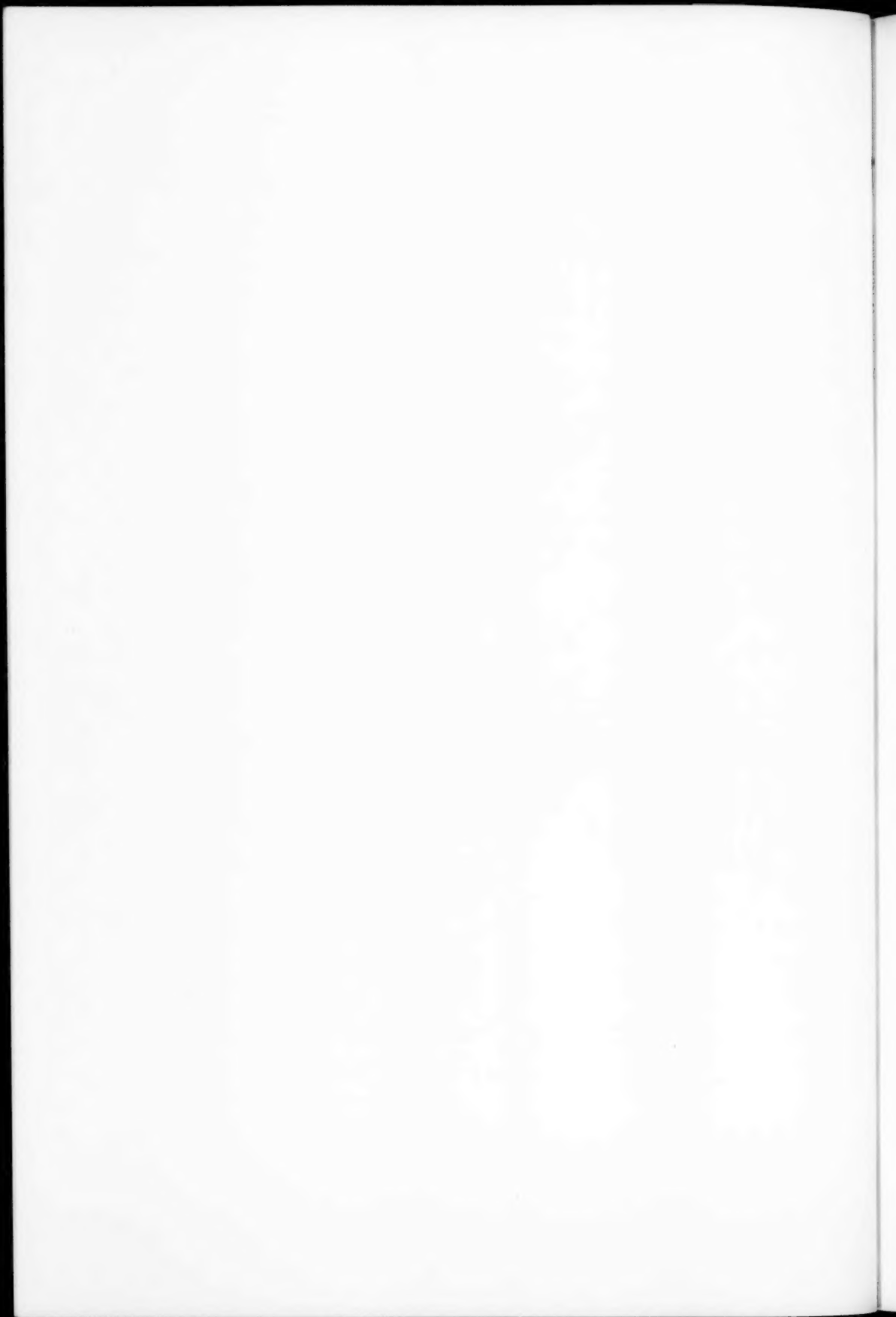


Fig. 17



The medulla oblongata seems also to constitute a regulating center for vas-motility although recent investigators, Müller and Glaser,³⁵ seem to doubt the existence of such a center. At any rate, following his experiments, Owsjannikoff reached the conclusion that in rabbits there is a center controlling the blood pressure and located in the vicinity of the superior olive, while for Ranson and Billingsley,³⁶ the center is apparently located in the tegmentum near the obex.

In the medulla oblongata we also have centers regulating the saliva and tear secretion. The nervous cells which form the nucleus salivatorius superior of Kohnstam³⁷ seem to be located over the dorsal region of the facial nucleus while the group of cells constituting the nucleus salivatorius inferior is apparently located between the inferior olive and the nucleus ambiguus. Jagita has localized a center for the secretion of the parotid gland in the vicinity of the nucleus of the glossopharyngeus, ventral to the acoustic spinal root, and extending to the nucleus ambiguus. The exact center for tear secretion is not as yet established.

PHYSIOLOGY OF THE SYMPATHETIC NERVOUS SYSTEM

The sympathetic and parasympathetic portion of the vegetative nervous system have, altogether, antagonistic action. Where for instance the cranial division of the parasympathetic acts as a conservator of bodily resources, and the sacral division acts as a mechanism for emptying, the sympathetic division is antagonistic to both these functions. As Cannon³⁸ has stated in his book on "Bodily Changes in Pain, Hunger and Fear," the cranial autonomic represented by the vagus nerves is the part of the visceral nervous system concerned in the psychic secretion of the gastric juices. The cranial nerves to the salivary glands are similarly the agents of psychic secretion in these organs and are known to cause also dilatation of the arteries supplying the glands so that during activity the glands receive a more abundant flow of blood. The vagi, artificially excited, are well known as stimulators of increased tone in the smooth muscle of the alimentary canal. Aside from these positive effects on the muscles of the digestive tract and its accessory glands, cranial autonomic fibres cause contraction of the pupil of the eye and slowing of the heart rate. A glance at these various functions of the

cranial division reveals at once that they serve for bodily conservation. By narrowing the pupil of the eye they shield the retina from excessive light. By slowing the heart rate, they give the cardiac muscle longer periods of rest and invigoration, and by providing for the flow of saliva and gastric juice, and by supplying the muscular tone necessary for contraction of the alimentary canal, they prove fundamentally essential to the processes of proper digestion and absorption by which energy yielding material is taken into the body and stored. To the cranial division of the visceral nerves, therefore, belongs the quiet service of building up reserves and fortifying the body against times of need or stress (Cannon).

Sacral autonomic fibres cause contraction of the rectum and distal colon and also contraction of the bladder. The sacral autonomic fibres also include the *nervi erigentes* which bring about engorgement of erectil tissue in the external genitals. Although distention is the commonest occasion for bringing the sacral division into activity, it is not the only occasion. Great emotion, such as is accompanied by nervous discharges via the sympathetic division, may also be accompanied by discharges via the sacral fibres. Like the cranial division, the sacral is engaged in internal service to the body in the performance of acts leading immediately to greater comfort.

On the other hand, the sympathetic division of the vegetative nervous system acts as antagonistic altogether, to both the cranial and the sacral portion of the parasympathetic. Thus, the cranial supply to the eye contracts the pupil, the sympathetic dilates it; the cranial slows the heart, the sympathetic accelerates it; the sacral contracts the lower part of the large intestine, the sympathetic relaxes it; the sacral relaxes the exit from the bladder; the sympathetic contracts it. (Cannon).

This antagonism of the two systems, sympathetic and parasympathetic, must not be, however, over-emphasized and if the distinction is quite a useful one, especially from the didactic point of view, from the physiologic point of view, many overlapping actions can be demonstrated establishing the possibility of various types of response in the same system. This is especially demonstrated experimentally by modifying the tonus of the vegetative nervous system before its stimulation. It has long been emphasized that the

tonus of the vegetative nervous system at the moment of its exploration, has an important influence on the type of reaction to a given stimulus. The peripheral end of the vagus, if properly stimulated electrically, normally determines peristalsis of the stomach. Now if pilocarpin is injected, which substance will modify the tonus of the vagus nerve, the electrical stimulation of the peripheral portion of the nerve instead of determining peristalsis of the stomach, will conversely inhibit the contraction. Potassium, for instance, which normally has a negative action on the heart, will develop positive inotrope action if the muscle has been previously treated with its antagonist substance, the calcium. Adrenalin, the positive action of which upon the heart is well known, loses its active effects if the heart has previously been treated with potassium or muscarine, substances generally admitted as vago-trope. Numerous other instances might be taken from the work of H. Fredericq,³⁸ Fröhlich³⁹ and Pick, Cole and Pick,³⁹ Bercowicz³⁹ Gautrelet and Garibaldi,³⁹ etc., so that altogether, the conclusions of Bard and Danielopulo are worthy of consideration when they state that the antagonistic phenomena of stimulation and inhibition are not governed by different types of fibres but are under the dependence of conditions determined by the nervous impulse over the intermediary system (the vegetative system) and by the conditions of receptivity of the various nervous elements. Pende⁴⁰ goes even further and rejects entirely the conception of the antagonism of the two systems as introduced by Eppinger and Hess advocating the conception of the rhythmic balanced collaboration of the sympathetic and parasympathetic. With such a conception we better understand why a condition of hyperfunction of one of the two systems may and may not be accompanied by a hypofunction of the other and why it may even be accompanied by hyperfunction of this second one. It explains also why clinically a condition of hyperactivity of the parasympathetic is not identifiable with a condition of hypo-activity of the sympathetic.

As a matter of fact, it is well known that the paralysis of the vasoconstrictors in one segment of the body is not identifiable with the hyper-activity of the vasodilators. Pende has also shown that a cardiac dilatation due to atonia or paralysis of the system which increases the cardiac muscular tonus (sympathetic) has a sympto-

matology and a physiopathologic significance quite different from the active dilatation following stimulation of the diastolic nerves (parasympathetic) which may actively elongate the muscular fibre.

At any rate, irrespective of the conception of antagonism or of the conception of collaboration, the sympathetic and parasympathetic system control the most essential function of life, the normality of which is essential to both physical and mental health. There is no reason why a disturbed metabolism of water, of sugar or of mineral salts should affect various organs as the kidney, liver, or heart and leave unaffected one of the most sensitive portions of our organisms, the central nervous system.

Normal activity of an organ requires a normal structure. This applies to both the morphological and the chemical structure. Metabolic changes can influence the chemical structure of the nervous system, thus resulting in an abnormal function. Because of the fact that the sympathetic nervous system is the controlling element of all the metabolic chemicals and colloidal processes of life, the importance is obvious of investigating the functions which are governed by this involuntary nervous system.

* * *

In approaching the subject of investigation of the vegetative functions, we must always bear in mind the interrelationship existing between the sympathetic nervous system and the endocrine glands. Such intimate connections are too well known and too well admitted to form the subject of any discussion. To remember this fact is, however, necessary, because of the various morphological and constitutional types which correspond to the hyper or hypo-activity of a given gland.

The first step in the investigation of the vegetative function is then represented by a collection of data referable to the somatic aspect of the patient. I only need to mention the remarkable work of Pende where the interrelationship of glandular activity with bodily formation and bodily structures are thoroughly discussed. Let me only recall the importance of establishing the hypopituitary, the hyperpituitary, the hypothyroid or hyperthyroid types of constitution in our preliminary somatic investigation.

The next step will be the collection of data dealing with the most important vegetative function. Among them I will mention the

blood pressure, the pulse rate, the respiration rate, the oculocardiac reflex, the solar reflex, the pilomotor reflex, the pupillary reaction, the salivary secretion, the sweat regulation and the vasomotor reaction. A third important step will then be with the rating of the basal metabolism, the sugar metabolism and the water metabolism.

All these data, properly collected, will furnish us the measure of the actual condition of the vegetative life. By such repeated investigation, in the course of the psychoses, preceding their onset or following it, we might establish, then, a relationship between the changes of the vegetative life and the mental reactions.

Many other chemical investigations would be necessary in order to put the vegetative life under a complete test. This is quite easy to understand when we do think of all the complicated metabolic changes controlled by the vegetative nervous system. Such an investigation which is certainly of extreme importance when considered from the point of view of a strict research problem involving the cooperation of various departments of an institution, will not be possible with the limited facilities of a psychiatric ward.

Therefore, I will only emphasize some of the methods which can be almost used at the bedside of the patient, and which, when carried out by the ward's physician, will enable him to grossly test the tonus of the vegetative nervous system. This system, as a whole, may be found in condition of hypotonia or of hypertonia. Furthermore, each one of the two components of the vegetative nervous system may have a tonus of its own. We may then find a hypertonus of the sympathetic (sympatricotonia) as well as a hypertonus of the parasympathetic (vago-tonia) and a hypotonus of the sympathetic (hyposympatricotonia) as well as a hypotonus of the parasympathetic (hypovagotonia). The variations of the tonus of the vegetative nervous system in various mental conditions has been precisely investigated for diagnostic and prognostic purposes.

The study of the various vegetative functions while the patient is resting, constitutes already an indication of the tonus of their supporting nervous system.

Various attempts have already been made to establish a correlation between the status of various vegetative functions and the tonus of the sympathetic or parasympathetic system. Among them

I might mention the one of Brook and Kay and the very recent one of Pende which I report in Table 2. Following the outline given by

TABLE 2. THE FUNCTION OF THE PARASYMPATHETIC AND SYMPATHETIC SYSTEMS

<i>Functions</i>	<i>Parasympathetic</i>	<i>Sympathetic (After Pende)</i>
Intermediary metabolism	Antimobilizing action of the hepatic glycogen and favoring the intrahepatic glycogenesis (Stefani): hypoglycemic action through stimulation of the internal secretion of the pancreas. Stimulating action over the synthetic processes of proteins, fats and carbohydrates (Erich Toennisen)	Mobilizing action of the hepatic glycogenic reserves, hyperglycemic action through chromaffin stimulation. Catabolic action on proteins (through thyroid stimulation?) on fat (through pituitary stimulation?) on carbohydrate (increased utilization of glycogen by muscular tissue?)
Thermogenesis	Increase of endothermic processes: diminished production of heat and increased dispersion: Hypothermic function (Dresel)	Increase of the esothermic processes of calories production, diminished dispersion of heat because of cutaneous vasoconstriction: pyretic and hyperthermic function.
Sodium chloride and water metabolism	Increase of water elimination through the kidneys and skin (perspiration) and of renal elimination of chlorides (Dresel)	Inhibition of sodium chloride and water diuresis
Isoionism of blood and acid basic equilibrium of fluids	Increase of potassium and phosphate ions, increase of alkalosis, increase of sodium and potassium phosphate compared with calcium and magnesium phosphate in the urine, increase of hydrophilia of the colloids and lability of the colloidal system.	Increase of calcium ion in the tissues, increase of acidosis, increase in the urine of acid phosphates, increased dehydration of the colloids and increased stability of the colloidal system
Secretions:		
Lacrimal	Stimulation	Inhibition
Salivary secretion	Stimulation (watery saliva)	Viscous sympathetic saliva
Gastric secretion	Stimulation	Inhibition
Intestinal secretion	Stimulation	Inhibition
External pancreatic secretion	Stimulation	Inhibition
Biliary secretion	Stimulation	Inhibition
Sweat secretion	Stimulation of warm, watery perspiration	Cold, viscous, emotive perspiration

<i>Functions</i>	<i>Parasympathetic</i>	<i>Sympathetic</i>
Renal secretion	Stimulation of water chloride and uric secretion Stimulation of renal permeability for sugar (Pende)	Inhibition of secretion through renal vasoconstriction
Glandular secretion	Stimulation (nasal, bronchial, intestinal mucosa)	Inhibition of mucus secretion
Spermatic secretion	Stimulation (?)	Inhibition (?)
Thyroid secretion	Increased formation and accumulation of the secretion (Pende)	Increased discharge of the thyroid secretion
Adrenal secretion	Stimulation of the secretion of lipoids of the cortex (?) (Baginski)	Increase of adrenal discharge
Thymus secretion	Stimulation (?) (Pighini)	
Pituitary secretion	Stimulation of the neurohypophysis (?)	Stimulation of the prehypophysis
Internal secretion of the pancreas	Insulin stimulation (?)	Inhibition of the insulin secretion
Internal genital secretion	Stimulation	Inhibition of internal genital secretion
Choroid plexus secretion	Stimulation	
Lymph secretion	Stimulation of passage of water and chlorides from the blood into the tissue and swelling of the latter	
Heart	Moderating function of the frequency of the excitability of the conductivity and of the contractive energy: cardiodilating action over the ventricle (tonogenic)	Accelerating action, increase of the excitability, conductivity, contractive energy and ventricular tonus
Blood vessels, arterial and venous pressure	Dilatation (constriction of the coronaries) Arterial hypotension (sistolic) with venous hypertension (diastolic hypertension)	Constriction of small arteries and veins (dilatation of the coronaries: sistolic arterial hypertension with consequent diastolic hypotension)
Ocular motility	Contraction of the sphincter of the iris and of the ciliar muscle.	Dilatation of the sphincter of the iris
Gastro-intestinal motility	Peristaltic contraction of the muscles of the pharynx, esophagus, stomach, small and large intestine; relaxation of cardiac and piloric sphincters (?) Opening of the Bahuino valve (Dresel), increase of gastro-intestinal tonus	Inhibition of peristalsis of whole gastroenteric tube with exception of the piloric and cardiac sphincters which are contracted. Tonic expansion of the gastro-intestinal walls

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<i>Functions</i>	<i>Parasympathetic</i>	<i>Sympathetic</i>
Motility of the biliary ducts and of the gall bladder	Relaxation of the sphincter of the papilla of Vater (Courade and Guyon) and contraction of the gall bladder	Contraction of the sphincter of the papilla of Vater, relaxation of the gall bladder (von Westphal)
Motility of the pancreatic ducts	Relaxation	
Motility of the bladder	Contraction of the detrusor and relaxation of the sphincter	Relaxation of the detrusor, contraction of the sphincter; contraction of the urethers
Motility of the seminal vesicles	Ejaculation and erectile function	Inhibition of the contraction of the seminal vesicles and of the uterus. Inhibition of erection (Dresel)
Motility of the uterus	Contraction	Inhibition
Motility of larynx and small bronchii	Contraction	Relaxation of the bronchial muscles
Motility of muscles arrectores pilorum	Inhibition of contraction?	Contraction
Motility of the pigments of the chromatophores	Expansion?	Contraction
Motility of the striate muscles	Increase of the tonus and retardation of the rapidity of contraction (Pende)	Inhibition of the tonus and increase of the kinetic rapidity (Pende)
Hematic morphology	Eosinophilia, monocytosis with neutropenia	Aneosinophilia and neutrophile polynucleosis
Internal sensibility kinesthesia	Increased hyperkinesthesia and increased neuro-vegetative reflexes to pain (Biondi)	Diminution of kinesthesia and of the visceral sensibility (?) (Laignel Lavastine) and of the neurovegetative reflexes to pain (Biondi)
Psychic tonus	Increase (euphoria)	Depression of the psychic tonus (?)
Psychoesthesia	Depression (to apathy and affective indifference)	Increase of psychoesthesia, of the emotivity and of aggressiveness (Pende)
Type of intelligence	Analytic (Pende)	Synthetic (Pende)

these investigators, we will be able to establish the tonus of the sympathetic nervous system at the time of its exploration.

Following this, we must perform the so-called pharmacodynamic tests which consist in hypodermic or intravenous injection of substances the action of which is well established as stimulating or inhibiting each one of the two portions of the vegetative nervous systems. The substances generally in use are adrenalin, atropin and pilocarpin.

Following the hypodermic injection of 1 mmg. of adrenalin a normal subject will show an increase of from 10 to 20 beats of his pulse. If the increase exceeds 25 beats it is generally agreed that the patient is sympaticotonic. Following a subcutaneous injection of 1 mg. of atropin the action of which is to inhibit the parasympathetic system, normal subjects show at the most an increase of 10 beats in their pulse rate. If following this inhibitory action no liberation of the sympathetic system, that is, no increase in the pulse rate is noticed, it then means that the parasympathetic system is in a condition of hypertonicity and that the amount of the atropin injected has not been enough to inhibit its action. The conclusion of vagotonia is then justified. On the other hand, if following the injection of the same amount of atropin instead of an increase of 10 beats in the pulse rate, we register an increase above this rate, we may conclude that the condition of the parasympathetic was already hypotonic as a normal dose of atropin has overinhibited the system. It must be added however, that if other signs of vagotonia are present, the excess of increase in the pulse rate following the injection of atropin cannot naturally, be attributed to hypovagotonia, but precisely to sympaticotonia, i. e., an increase in the tonus of the sympathetic nervous system.

It is a normal reaction following injection of atropin to note for the first few minutes, that instead of an increase in the pulse rate there is a decrease in the pulse rate, thus pointing to a temporary vagotropic influence of the atropin. In other words, atropin, stimulates the vagus for the very few first minutes. Occasionally in condition of hypervagotonia the atropin may stimulate the vagal functions for a longer period of five or six minutes and at times for 20 and even 30 or 40 minutes. In this case we may speak of a paradoxical reaction of the atropin and the explanation for it may be found in the condition of marked vagotonia, thus entering in the general principle which I have already mentioned, that a pharmacological substance may have an inverted action in the presence of a strongly modified vegetative tonus.

While adrenalin is a sympaticotrope substance, pilocarpin is supposed to be a vagotropic substance. As a matter of fact, however, at the dose in which pilocarpin is generally used, i. e., one c.c., its action is anphotrope, i. e., is bivalent, stimulating both the sympa-

thetic and parasympathetic system. This is why Escudero⁴² has reached the conclusion that pilocarpin is a vagotropic substance at the dose of only 2 milligrams. According to his data which I have followed in my investigations of the vegetative nervous function in chronic encephalitis, it is a sure sign of marked vagotonia if following the injection of 2 mmg. of pilocarpin an abundant salivation follows in the capacity of about 50 c.c. of the secretion.

To establish a correct evaluation of the tonus of the vegetative nervous system in mental conditions, it must also be known that occasionally we meet with a dissociation in the tonus of the vegetative nervous system, i. e., a different tonus in the various organs. This agrees with the old findings of Falta, Pende, Castellino and Danielopulo to whom such a dissociation was a well known fact and who correlated it with a humoral modification of the nervous pathway or of the corresponding organ.

Danielopulo^{43 44} and his pupils prefer to the hypodermic injection, the intravenous one, and they have devised a system of investigation of the vegetative nervous system based on the only test of intravenous injection of atropin. Danielopulo has based his results on the maximum figure of acceleration in the pulse rate following the complete inhibition of the vagus by means of atropin. The highest figure of the increase in the pulse rate represents the tonus of the sympathetic system. The difference between this figure and the figure the patient had before the injection of atropin, represents the tonus of the parasympathetic. The total dose usually needed to inhibit entirely the parasympathetic, is 1½ milligrams. The normal tonus of the sympathetic system is around 128. Normal tonus of the parasympathetic is around 50-66. If then, following the injection of atropin there is an increase of the pulse rate up to 150 or 160, the patient is a sympaticotonic. To establish the moment in which the parasympathetic system is entirely inhibited, Danielopulo uses the orthostatic test or the oculocardiac test which last disappears when the parasympathetic is entirely paralyzed.

Following the injection of the 3 above mentioned pharmacological substances, a re-examination of the various vegetative functions must take place and the results recorded.

* * *

Among the various tests in use for the exploration of the vegeta-

tive nervous system preceding and following the use of pharmacodynamic substances, two of them seem to have a dominant importance; they are the oculocardiac reflex and the solar reflex. The oculocardiac reflex first described by Aschner and Dagnini, consists in the decrease of the pulse rate which follows the compression of the eyeballs. In normal subjects the decrease in the pulse rate is around 7 to 8 pulsations while in vagotonic subjects the decrease is sometimes as high as 20, 30, 40 and more pulsations. At times we have a paradoxical reflex in cases of hypersympatricotonia, i. e., an increase instead of a decrease in the pulse rate.

The solar reflex which was first described by H. Claude^{45 46} consists in the more or less pronounced diminution of the sphygmanometric oscillations following a considerable pressure of the epigastric region. The cardiac rhythm is only very slightly modified. While the oculocardiac reflex when positive is an expression of vagotonia, the solar reflex is an expression of sympatricotonia and the two reflexes are quite antagonistic as generally, in the presence of a pronounced solar reflex the oculocardiac reflex disappears.

* * *

The basal metabolism test is also a very important one to determine the condition of the vegetative nervous tonus. For a long time the basal metabolism test has been investigated independently from the tonus of the vegetative nervous system. I think I have been among the very first to emphasize the intimate connections between the basal metabolism rate and the tonus of the vegetative nervous system.^{47 48} I have performed my investigation on chronic encephalitic patients in whom the basal metabolism was tested preceding and following the action of pharmacodynamic agents. The conclusion which I reached at the time of my investigation is that there is a strict correlation between the tonus of the vegetative nervous system and the metabolic rate. As a matter of fact, in connection with vagotonia, I always found a low basal metabolism while conversely, in connection with a state of sympatricotonia, the basal metabolism rates were always found to be above normal. If the conclusions which I have reached are correct, the necessity of testing the tonus of the vegetative nervous system in connection with the basal metabolism is obvious. It is indeed, a well-known fact that while affected by the same disease, some patients disclose sympa-

ticotonia while others are vagotonic and still others anphotonic, i. e., with hyperactivity of both systems. This is certainly true in chronic encephalitis and therefore the report of an increased or diminished basal metabolism would be of no value if not accompanied by the condition of the vegetative nervous system which may account for the variations in the basal metabolism rate.

* * *

The alimentary glycosuria test as used by Lewis and Benedict, is another test which the French school has generally used to investigate the tonus of the vegetative nervous system through the sugar tolerance. They have observed that vagotonic patients have an extremely high tolerance for carbohydrate while sympatheticotonics do not show this tolerance. One and eight-tenths to 2 gm. per kilogram body of glucose is administered and if this dose is tolerated the patient is considered vagotonic. The test is then repeated, the dose being increased. From 200 to 250 gms. can thus be given to certain patients. If after the ingestion of the first dose sugar is found for several hours in the urine, it shows that the patient is not vagotonic. The test is then repeated and if by diminishing the quantity of glucose administered glycosuria is still found, it means that the patient is hypovagotonic. Naturally the test has value only in the presence of normal liver conditions.

THE DIAGNOSTIC AND PROGNOSTIC IMPORTANCE OF INVESTIGATING THE VEGETATIVE NERVOUS SYSTEM IN MENTAL CONDITIONS

The investigation of the tonus of the vegetative nervous system is of great importance not only for establishing the fact that mental conditions are accompanied at least, if not preceded, by imbalance of the vegetative nervous function but also for the fact that this investigation may help in a better diagnosis and prognosis of mental conditions. Indeed, as Claude, Santenaise and Targowla⁴⁹ have already emphasized, some symptoms that are ordinarily relied on for diagnosis, may be found in psychoses of very different prognosis. For instance, certain kinds of manic patients who will eventually recover, may present mannerisms, mutism, negativism and apparent manifestations of inactivity. On the other hand, dementia præcox patients may present an excitement comparable

to that of manic patients with disturbance of attention, mobility of ideas, rapid association and yet may show behind this excitement, a real affective and intellectual deficiency.

The investigation of the vegetative nervous system to diagnose mental disorders seems very promising, according to the results reported by these authors. In 1925 more than 600 patients suffering from various mental disorders were studied by them from the standpoint of vegetative imbalance and from their experience the French authors believe it possible to build certain synthesis, especially in the presence of absolute constancy of their results. From their observation, it has been possible to group the psychoses according to the neuro-vegetative reaction in five large categories. (1) Those which show hypervagotonia; (2) those which show hyper-sympatricotonia; (3) those which show hypertonicity of both systems; (4) those in which the neurovegetative reactions are normal; and (5) those in which reaction is absent either transitorily or permanently. The accompanying table taken from the work of Claude, Targowla and Santenoise, summarizes these results.

How can their data be applied, for instance, to the diagnosis of states of excitement and depression? It may be observed from the accompanying schema, that characteristic differences exist in the tonus of the vegetative nervous system in states of excitement and depression occurring in the different forms of psychoses. Roughly speaking, it seems that mental disturbances which appear in the form of attacks and are separated by relatively normal periods, are most often accompanied by hypertonicity of the vagus or of both vegetative systems. On the other hand, in patients such as those with dementia præcox in whom the clinical manifestations depend on a psychosis with chronic evolution and unfavorable prognosis, the authors have always noticed feeble or negative types of vago-sympathetic reaction.

From the above reported table, in the presence of a state of excitement one may consider: 1. A state of true manic excitement belonging to the manic-depressive group. In this case one would invariably find distinct hypertonicity of the vagus. 2. A state of manic excitement linked with an emotional process as in emotionally unstable subjects in mania with anger, etc. One finds then, only a hypertonicity of the sympathetic. 3. A state of excitement linked

TABLE 3. SCHEMATIC PRESENTATION OF PSYCHOSES ACCORDING TO NEUROVEGETATIVE REACTIONS (AFTER CLAUDE, SANTENOISE AND TARGOWLA)

Vagotonia	Sympathicotonia	Neurotonia Vagotonia + Sympathicotonia	Normal Neurovegetative Reactions	Hyponeurotonia		
				Temporary	Modifiable	Irreducible
Oculocardiac reflex = + Solar reflex = 0 Sharp reactions to eserin and pilo- carpin Tolerance to atropin Tolerance to glucose	Oculocardiac reflex = 0 Solar reflex = + Sharp reactions to suprarenal extract and atropin Weak tolerance to glucose	Oculocardiac reflex = + Solar reflex = +		Oculocardiac reflex = 0 Solar reflex = 0 or + Appear after a few days	Oculocardiac reflex = 0 Solar reflex = 0 Appear after use of certain pharmaco- dynamic agents	Oculocardiac reflex = 0 Solar reflex = 0 Nothing modifies this state
Manic- depressive Mixed states	Emotionally unstable Mania with anger Affective melancholia Emotionally unstable with anxiety Emotive confusion	Degenerates Outbursts of delirium Obsessions Impulses Intermittent instinc- tive perversions Toxicomania	Various systematized delusional states	Intoxication psychoses	Temporary asthenia	Prolonged asthenia
Epilepsy	Convulsive attacks Equivalents Excitation Depression					Dementia præcox

with intoxication. a) In drug addicts before withdrawal the neurovegetative reactions are absent but the reflexes appear strongly as soon as the drug is stopped. b) In alcoholic intoxication in the acute or subacute form, reflexes are absent but they reappear as soon as the confusional state ceases. c) In psychoses due to endogenous intoxication, the reactions are of the same order, i. e., neurotonia (vagotonia plus sympaticotonia). 4. A state of excitement linked with dementia præcox. In this case the neurovegetative system presents a complete and non-reducible atony.

In the presence of a simple state of depression without delusional ideas one may think of: 1. A state belonging to the manic-depressive psychosis. In this case the hypertonicity of the vagus is characteristic. 2. A confusional state due to intoxication. Here the reflexes are not marked or hypertonic but reappear after the cause of the intoxication has ceased. 3. Temporary asthenia. In this disorder the vagosympathetic reactions are hypotonic but they are elicited by the use of pharmacodynamic substances. 4. Dementia præcox. In these cases the atony of the neurovegetative system is non-reducible.

In the presence of states of anxious agitation with or without delusional ideas, one may think of: 1. A depressional manic state belonging to the manic-depressive psychosis in which case we should find vagotonia. 2. A state of emotional instability in which case we will find sympaticotonia. 3. A confusional state in which case we should find hyperneurotonia. 4. An episodic symptom of degeneracy: obsessions, impulses, phobias, in which case we generally find neurotonia. 5. Dementia præcox in which cases we find non-reducible hyponeurotonia.

On the basis of the above mentioned outline, the French authors have been able to make in certain cases, a correct diagnosis based solely on biologic findings, even in the presence of clinical signs in favor of a different diagnosis. More details about the investigation of the neurovegetative systems in so-called functional psychoses, may be found in the very interesting article of Santenoise⁵⁰ published in *L'Encephale*, 1927, 22.

On the basis of the neurovegetative loss of balance in various mental conditions, one may even consider the possibility of a relation of cause and effect between the appearance of an abnormal vago-

sympathetic response and the development of morbid paroxysms. Indeed, in some patients the French authors have been able to delay or check the appearance of a periodic mental disturbance by checking the loss of balance in the vagosympathetic system. This may be due to the fact that in the pathogenesis of certain mental disorders there are disturbances of the metabolic changes of the cortical cells. The intensity and rapidity of these metabolic changes seem to be proportionate to the excitability of the vegetative system probably through the intermediation of the humoral or endocrine mechanism.

The same attitude is taken by De Sanctis⁵¹ in his survey of dysthymic children when he expresses the opinion that we are dealing here with a rupture of the cenesthetic equilibrium, that is, the endocrine sympathetic one. He believes that general toxic factors, hormonal or specific, may provoke this cenesthetic imbalance by acting on the peripheral sympathetic portion, on the ganglionic centers, or on the vegetative centers themselves. The action might then result in a hypothyria, depression, or a hyperthemia, excitement.

* * *

The action of toxic factors in establishing an imbalance of the neurovegetative system has been worked up from the experimental point of view by Santenoise.⁵² This author, in collaboration with Garreton, has experimentally established that in conditions of toxemia there is a marked change in the tonus of the vegetative nervous system. Furthermore, he has experimentally modified the tonus of the vegetative nervous system, by injecting pilocarpin or atropin, concluding that the animals which are in a condition of vagotonia are more susceptible to toxic actions while following inhibition of the parasympathetic, a considerable resistance to intoxication is displayed by the organism.

The importance of a toxic factor in the permanent mental condition seems to be more and more emphasized in our medical literature. All the investigations on renal function, liver function, gastrointestinal tract function and all the biological investigations on the toxicity of urine and serum seem to point towards the conception that toxic agents must play a much more important role than has ever been suspected in establishing mental disorders. In Italy Buscaino⁵³ is among the very strong believers that many mental

conditions are the result of intoxication due to abnormal amines especially histamine, circulating in the blood. The origin of such abnormal amines may lie in a lesion of the gastrointestinal tract or in liver changes which Buscaino has very often found at the autopsy of dementia præcox cases. Emphasis on the same subject has been recently brought up by Paul Reiter in his interesting monograph on the pathology of dementia præcox.

It is a well-known fact that very often gastrointestinal disturbances are found to co-exist with mental disorders and though it would not be the appropriate place here to discuss their relationship, I might express my personal opinion that autointoxication due to gastrointestinal lesions or faulty renal or liver metabolism, must have a dominant importance in determining abnormal mental reactions. It is not an easy task to establish that the above mentioned intoxication acts directly on the cortical elements of the brain or indirectly through action on the regulating centers of the vegetative nervous system. Because of the fact that concomitant to mental disorders we often find an imbalance of the vegetative nervous functions, it does seem to me justifiable to assume that intoxication acts primarily on the vegetative nervous system. It is probably through the action of selective poisons that the controlling centers or the peripheral apparatus of the vegetative nervous system are affected, thus resulting in an abnormal status of the vegetative life. And as we all know the very great importance of the vegetative function for the maintenance of that particular condition of equilibrium which we usually term as health, we may easily assume that a vicious circle might then be established by means of which intoxication affects the vegetative centers, the modified vegetative regulation would result in modified vegetative functions, and the abnormal, presumably toxic, metabolism.

Vagotonia may then be established and once this is the case the condition represents a favorable one for the development of new paroxysms which may be brought up by the action of shocks (J. Tinel and Santenoise⁶⁴) either organic or psychic in nature. That shocks of organic nature may lead to a new paroxysm in mental conditions is a well established fact and cases are known as the ones reported by Tinel, in which shocks following serum treatment of diphtheria or tetanus have determined the onset of acute manic or

confusional states. The explanation may lie in the fact that the shock produced by the serum has temporarily suppressed the condition of immunity, thus allowing a new fixation of the toxins as if the combination formed by the union of toxin and antitoxin might have been temporarily dissociated. It is logical, then, to assume that in some instances a latent process of autointoxication almost checked or neutralized by the spontaneous process of natural defense, may be activated all of a sudden, following the action of a shock and an invasion of liberated toxins may be responsible for the onset of the excito-confusional disorders. The action of the shock is not a necessary one, as in many instances no such a factor can be determined and intoxication alone might be responsible for the supposed selective action on the vegetative nervous system.

Shocks of organic origin are not alone responsible for the onset of mental reactions; we all agree as to the psychic origin of some of them. Fear, anger, and all the vivid emotions, repressions and desires, may provoke some kind of a shock comparable to the hemoclastic shocks and determine liberation of toxins simliar to the anaphylactic shocks. Cases of asthma, urticaria, migraine of emotional origin, are not rare nor are the anxiety or manic crises resulting from emotional factors. Confusional periods following severe anger or tense emotions, are well known. The mechanism of emotion is a very complicated one and does not confine itself to the humoral aspect. We all know the psychologic and physiologic complexes accompanying emotion, mainly the adrenalin discharge as shown by Cannon, but I favor the view point that one important mechanism of emotion is the production of shock through which the sympathetic and parasympathetic balance is disturbed.

It follows that either from stimuli of organic nature as the one represented by gastrointestinal disturbances, or from emotional stimuli, the centers of the vegetative nervous system might be affected and the regulation of the most important metabolic functions highly disturbed. The pathways that these stimuli follow to reach the vegetative centers, have already been mentioned partly, at least, in the anatomical survey which I have sketched. Let it be remembered that organic stimuli from the various organs of the vegetative life may follow the posterior root pathway and reach the vegetative centers located in the spinal cord. Less known are the pathways

through which emotional stimuli may affect the vegetative centers. Considering however, that some, at least, of the emotional stimuli might be represented by olfactory visual, or tactile impressions, I will rapidly mention the possible afferent arc that this stimuli will have to follow in order to determine a vegetative reaction.

For the olfactory stimuli the basal olfactory bundle of Wallenberg establishes a direct connection between the peripheral olfactory apparatus and all the structures located in the diencephalon. On the other hand, the connections between the corpus mamillaris, part of which has a vegetative function and the Ammon's horn, one of the most important olfactory centers, might be established through the columnae fornicis descendens and the tractus cortico habenularis connecting the Ammon's horn with the thalamus. And the thalamus has certainly important connections with the corpus mamillaris through at least the mamillo-thalamic bundle of Vicq D'Azyr.

The optic stimuli may influence the vegetative centers through the fibres which according to Köl liker connect the optic tract with the corpus subthalamicus or corpus of Luys. These fibres, which I have been able to follow in a dog in which the pes pedunculi was degenerated because of the removal of the cortex, may carry optic stimuli to the corpus subthalamicum the connection of which, with the vegetative centers (corpus striatum and diencephalic region) might be established through the commisura of Meynert through some of the fibres of the bundle of Forel or through the fibres connecting the corpus striatum to the corpus of Luys.

Tactile or sensory stimuli may reach the vegetative centers through indirect association with the thalamus. But not only fibres exist connecting the thalamus with vegetative region of the diencephalon but others exist connecting the latter region with the corpus striatum. And in the corpus striatum we know, according to Kononova and Mingazinni that some of the sensory fibres find their terminal station. The corpus striatum seems then, to be an organ which has controlling action over the diencephalic vegetative centers.

How now purely psychic reactions may influence the vegetative nervous centers, is more a matter of speculation and all the associa-

tive anatomical mechanisms between the various areas may be called into action.

The data which I have elaborated in this paper are certainly incomplete but nevertheless I hope to have at least stimulated, by this sketch of the function and connections of the vegetative nervous system, and of its importance in psychiatry, a desire for better investigating in our future work, this very important biologic aspect of the problem of mental diseases, the origin of which is still an obscure and much debated question.

EXPLANATION OF FIGURES

- Fig. 1. General view of the central and peripheral portions of the vegetative nervous system (after Müller).
- Fig. 2. Pathway of the tractus intermedio lateralis ventralis connecting the nucleus intermedio-lateralis with the sympathetic cells of the lateral chain through the anterior spinal root (after Greving).
- Fig. 3. Group of cells constituting the nucleus intermedio-lateralis, located in the lateral horn.
- Fig. 4. Morphological structures of some of the vegetative nerve cells (after Greving).
- Fig. 5. Reconstruction of the tractus medio-lateralis (tr-m.l.) and tractus latero-ventralis (tr. L. V.) (after Greving).
- Fig. 6. Nerve cells of the spinal ganglion (sp. G.) sending their peripheral prolongment in the ramus communicans (R.c.) of the sympathetic lateral chain (after O Rossi).
- Fig. 7. Sympathetic nerve cells of the plexus of Auerbach (after Stöhr Junior).
- Fig. 8. Diencephalic vegetative centers (after Greving)—frontal section.
- Fig. 9. Diencephalic vegetative nuclei (after Greving)—caudal section.
- Fig. 10. Tract connection between the diencephalic region and other caudal structures of the nervous system (tratus substantia grisea inferior, tractus tubercis, tractus tegmentalis and tractus reticulo—hypothalami) (after Greving).
- Fig. 11. Tractus strio-peduncularis (after Edinger).
- Fig. 12. Radiatio olfactoria basalis of Wallenberg (Reichstrahlung zum Zwischenhirn u. Mittelhirn) (after Edinger).
- Fig. 13. Some connections between the diencephalon and the thalamus (taenia thalami, pedunculus inferior thalami, etc., and between the diencephalon and other caudal structures (tractus mamillo—tegmentalis and Pedunculus corporis mamillaris) (after Greving).
- Fig. 14. Schematic representation of the tractus paraventricularis cinereus (after Greving).
- Fig. 15. Schematic representation of the tractus supraoptico-hypophyseus (after Greving).

Fig. 16. General survey of the connections between the frontal region of the brain and the diencephalic nuclei (tractus frontotuberalis and tractus fronto-supra-opticus) and of the diencephalon with the thalami and with other caudal structures (after Greving).

Fig. 17. Nuclei of the vagus (nucleus dorsalis—(n. X) nucleus fasciculus solitarius (N. F. S.) and nucleus ambiguus (N. amb.) (after Winkler and Potter).

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PAIN—ITS RELIEF BY MEANS OF NERVE BLOCK*

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The following is a presentation of the results obtained in severe unyielding pain by means of alcohol nerve block. A brief description of the anatomical, physiological and pathological bases upon which each of the various types of cases were treated, will be made. The cases in which pain as a symptom was thus treated were as follows:

	Cases
Cardiac pain	17
Tabes with gastric crisis	6
Laryngeal tuberculosis	15
Tuberculosis of the pleura	6
Neoplasm of lung and pleura.....	4
Neoplasm of parotid gland	1
Carcinoma of the tongue.....	1
Sciatica	40

The value of alcohol in neurone block depends upon the fact that a Wallerian degeneration is produced in the nerve, thus obstructing the conduction of pain impulses from the site of its production to the sphere of consciousness. The alcohol destroys mostly the unmyelinated fibres and their somae. The latter are the small bodies found in the group of cells making up the dorsal root ganglia. These cells and their unmyelinated fibres are the ones that convey the pain impulses (protopathic).

CARDIAC PAIN

The surgical procedure for the mitigation of severe unyielding pain in cardiac disease, attempts to eliminate the pathway along which the painful stimuli are passing from the heart to the sphere of consciousness. These impulses must enter the spinal cord in order to reach the thalamus. However, before entering the spinal cord these impulses must pass through the various rami communi-

* Presented with lantern slides at Quarterly Conference at Harlem Valley State Hospital, June 22, 1929.

cantes and spinal root ganglia. On account of the meagre anatomical and physiological data as many as eight different surgical procedures have been devised for the alleviation of the pain. The results obtained by these methods were so poor or indifferent and the mortality and morbidity so alarming that they called forth a sharp rebuke from Sir James MacKensie in a rather recent issue of the *Lancet*. Jonesco showed graphically the dangers encountered because of an inadequate knowledge of the physiology of the cervical sympathetic system.

The use of alcohol injected paravertebrally into the dorsal root ganglia is suggested as a rational and safe procedure for the assuagement of cardiac pain.*

The results can be briefly summarized as follows:

1. Seventeen patients suffering from attack of severe precordial pain, were treated by paravertebral injections of alcohol. Satisfactory relief was secured in every instance, except two, i. e., nine cases gave from 90 to 100 per cent relief, six cases gave from 50 to 85 per cent relief, and two cases were not relieved.
2. The alleviation of the pain following a single injection has usually lasted several months. One patient, who was reinjected after several months of relief, has again been made comfortable for a period of several months. This freedom from pain is still enjoyed.
3. No complications were encountered nor were there any serious after-effects, i. e., no mortality.
4. The procedure is simple and is based upon definite neurophysiological facts.

GASTRIC CRISIS

The operative treatment for gastric crisis depends upon the following anatomical, physiological and pathological bases. Irritative processes, going on in the sensory sympathetic fibres of the stomach, enter the coeliac plexus. From this latter structure the stimuli pass into the dorsal root ganglia via the splanchnic nerves. After reaching the root ganglia, the impulses enter the spinal cord on their way to the sensorium. These anatomical and physiological observations suggested the idea that if the posterior roots were

* A comparison was made between the results obtained by paravertebral alcohol block and the surgical operations as performed in this country and in Europe.

severed, the painful stimuli in their course to the spinal cord would be intercepted. Following along this line of reasoning, Forster and Moskowiez in 1911 practiced posterior rhizotomy. A perusal of the results obtained gave ample evidences of many brilliant results. However, the failures according to the former surgeon, rose to 50 per cent and the mortality reached as high a figure as 16 per cent. Many of the patients experienced relief for as long a period as one and one-half years. Purves Stuart advanced the suggestion, that the failures were caused by the fact that the remaining central stumps continued to convey painful influences. Attempting to eliminate these influences as a cause for failure, Sicard advised excision or avulsion of the root ganglia. The operation is extensive, severing the root segments from the fifth to the eleventh dorsal segments on one or both sides. However, with the injection of alcohol paravertebrally, many advantages are obtained.

1. A rapid and minor operation, with little or no pain is substituted for a long and serious procedure.
2. An operation with no mortality replaces one with a mortality of 16 per cent.
3. The patient is discharged from the hospital in a maximum of 4 to 5 days.
4. The alcohol produces not only a degenerative effect on the dorsal roots and the sympathetic afferent unmyelinated fibres in the sympathetic chain, but also seeps up to the dorsal root ganglia producing by chemical means what Sigard suggested should be done surgically.

A careful choice of the cases and a frank explanation to the patient of the results expected are necessary. The relationship of the symptoms found to the results expected is important. One group of cases complain only of severe constricting pain; another group complain of constricting pain together with nausea and vomiting another group have no pain but complain only of nausea and vomiting. The first group is most ideal for treatment. It indicates that all the impulses are passing up through the dorsal roots and therefore alcohol block should mitigate the condition.

The second group is interesting. The impulses of pain which enter through the dorsal roots into the spinal cord pass up to the

medulla, and, by stimulating the pneumogastric center, produce secondarily nausea and vomiting. However some of the patients may also have the pneumogastric nerve itself irritated. This irritation alone can produce nausea and vomiting. As a result, the following may ensue after paravertebral block. The pain is usually relieved in all of the cases treated.

The nausea and vomiting may be completely relieved. In other cases the nausea may persist while the vomiting disappear. On the other hand, if the nausea and vomiting are due to vagal irritation no alleviation of the symptoms will be accomplished. At present we have no clinical method which would help us differentiate between vagal irritation and medullary stimulation secondary to irritation of the dorsal roots. The third group is characterized by nausea and vomiting alone. These cases are the least favorable. They are usually due to vagal irritation. We ought, however, to give these patients an opportunity by blocking the dorsal roots. Possibly some or most of the impulses may be passing through the dorsal roots and some relief would ensue. Six cases, typifying the various groups described, have been blocked with alcohol. The relief in the favorable groups of cases has persisted for several weeks to several months. If the pain should recur, another injection would be indicated after the irritable roots had been delineated.

LARYNGEAL TUBERCULOSIS

An understanding of the anatomical course of the superior laryngeal nerve and the structures supplied is essential for the success of the technique. The superior laryngeal nerve arises from the lower ganglion of the vagus. It runs downward and inward beneath both of the carotid arteries towards the superior horn of the thyroid cartilage. About one centimeter in front of and a little below the cornu of the hyoid bone, the nerve divides into an internal and external branch. The internal branch enters the larynx by piercing the thyrohyoid membrane. It supplies the mucous membrane of the base of the tongue, epiglottis and larynx. The ganglion of the trunk from which the superior laryngeal nerve arises is in anatomic connection with the upper ganglion of the vagus, which gives off an auricular branch. The auricular branch, after leaving the upper ganglion, courses along the inner surface of the facial canal and terminates between the mastoid process and the external auditory

meatus. The nerve supplies the skin of the posterior part of the auricle and the posterior inferior portion of the external auditory canal.

The aim is to introduce a 65 per cent to 75 per cent solution of alcohol into the superior laryngeal nerve as it passes below the cornu of the hyoid bone. The sole indication we have that the nerve has been reached by the needle is the appearance of a sharp pain in the ear on the same side that the nerve is struck. Only then is the alcohol introduced. The amount injected varies from 1 cc. to 2 cc. Fifteen cases have been so treated with a relief extending for as long as five months.

PLEURITIC: PAIN IN PULMONARY TUBERCULOSIS

Six cases are reported of a new application of alcoholic injections into nerve tissue for the control of severe thoracic pain caused by pleuritic involvement in pulmonary tuberculosis.

The following is a brief resume of the anatomical, physiological and pathological premises upon which the neurone blocking is based. The sensory nerve supply of the pleura is through the sympathetic system. The pain bearing sympathetic fibres from the upper parietal costal pleura arborize about cells in the dorsal root ganglia. The extent of this arborization is from the first to the sixth dorsal root ganglia. The lower costal parietal pleura as well as in the rim of the diaphragm sends its afferent impulses to the sixth to the twelfth dorsal root ganglia. Therefore, disease in the costal parietal pleura will transfer its effects in the form of pain to the chest wall. The site of reference will depend upon the intercostal nerves involved.

The aim of the technical procedure is to introduce an 85 per cent solution of alcohol into or about both sympathetic fibres entering the root ganglia and the dorsal root ganglia. The ganglia chosen for block are those which are receiving the maximum pain stimuli from the diseased pleura. These are found by careful sensory examination delineating the zones of hyperalgesia, hyperesthesia and hyperthermalgesia on the skin surfaces. These zones of hyperirritability indicate that the cell bodies supplying the sensitive skin segments are being somewhat bombarded by pain stimuli. Relief for a period as long as one year has resulted from this procedure.

NEOPLASM OF LUNG, PLEURA AND SUPERIOR MAXILLA

The control of pain in malignant diseases has always been one of great concern to the attending physician. The incessant employment of morphine in the care of these patients has serious disadvantages which may be summed up as follows:

1. Small doses of morphine afford little relief.
2. The perpetual use of morphine quickly raises the tolerance to the drug. As a result even large doses often fail to ameliorate the pain.
3. Morphine even in small doses may actually hasten death in the extremely weak and debilitated patients.
4. The drug so dulls the intellect that both the family and the patient are denied even the companionship of the last days.
5. Opiates are especially dangerous in diseases of the lungs for they greatly reduce the cough reflex. As a result the secretions are often brought as far as the bifurcation of the bronchi and are dropped back into an unaffected area. Thus a terminal pneumonia is produced.

Four cases in which the pleura was encroached upon by a malignant growth, were treated upon the following principles.

The upper six intercostal nerves supply the upper parietal costal pleura. The lower six send their intercostal fibres to the lower parietal costal pleura as well as the parietal pleura of the diaphragm. Disease, therefore, in the costal parietal pleura will convey its effects in the form of pain to the chest wall. The site of reference will depend upon the intercostal nerve impinged. With the blocking of the nerves supplying the diseased pleura, pain stimuli would be prevented from reaching the sensorium.

One patient with a carcinoma of the tongue with metastasis and extensions to the floor of the mouth and the neck was injected because of the severe pain. The following anatomical and physiological facts were the basis upon which this patient was treated. The inferior maxillary nerve, a branch of the trigeminal, has both sensory and motor components. The sensory fibres arise from the lower anterior portion of the Gasserian ganglion and supply the skin over the side of the head, the auricle of the ear, part of the external auditory canal, the lower portion of the face and lip, the

mucous membrane of the mouth, the tongue, the lower teeth and gums, salivary glands and the temporomandibular articulation. The mandibular nerve enters greatly into the supply of the salivary glands. The parotid gland is supplied in part by the sensory fibres of the mandibular nerve through the auriculotemporal branch. The submaxillary and sublingual glands are supplied to a great extent by the lingual nerve, the large branch of the mandibular nerve.

SCIATICA

After a careful neurologic examination has been made, ruling out such conditions as tabes dorsalis, spinal cord tumor and hip joint disease, consideration for the symptomatic relief of the pain in sciatica is in order. To attempt to relieve the pain in the presence of the above disease would, if successful, be a pernicious result. It would mask the symptoms of the disease and might create great confusion in the pathway of a more basic and radical treatment. A review of the various methods used, leads one to the conclusion that much is left to be desired in the way of therapy. The following are some of the means employed—all forms of analgesics, counter-irritation, hydrotherapy, hot packs, mud baths, spray douches, hot air treatment and massage. The results obtained were so unsatisfactory by these methods that direct treatment to the nerve itself was considered and tried. Drugs having a degenerative action on the nerve tissue, i. e., carbolic acid, osmic acid, salicylic acid and alcohol are contraindicated. Many sad results have ensued from the degenerating effects on a mixed nerve like the sciatic nerve. In a recent article Dr. Israel Straus of New York, and William Ott of Rochester, Minnesota, reported a fairly large series of cases in which they injected saline and novacaine into the epidural space. The results obtained showed that the patients were relieved for many months and in some cases permanently. In my own series (40 cases) similar results exceedingly gratifying at times, were also obtained. This method is highly recommended.

Technique: The patient is placed flat with a pillow under the abdomen. The operator stands on the left side of the patient. With the left hand the coccyx is palpated. The finger is then passed up, palpating lightly, to a point where the coccyx meets the sacrum. At this junction a triangular space is felt with the apex pointing

upward and the base downward. The sides of the triangle are made up by the sacral cornu. A lumbar puncture needle, with the bevel turned up is introduced into the center of the triangle at about an angle of 25 degrees to the skin. The needle is introduced until the anterior wall of the canal is reached. The needle is then withdrawn about two or three millimeters and introduced about six to eight centimeters at an angle of 40 degrees to the spine. Before injecting the solution the stylet is removed to ascertain if any cerebral spinal fluid flows out. If cerebral spinal fluid is obtained the needle is withdrawn until the flow ceases. The presence of this fluid indicates that the needle has pierced the dural sac. If the injection was made under such circumstances, the saline and novacaine would be introduced in the spinal fluid. About 60 to 70 cubic centimeters of saline plus .125 grammes of novacaine are slowly introduced. This procedure is repeated about every four to six days. As many as four to eight injections may be necessary before considerable relief is secured. The fluid passes up the epidural space, bathing the roots and ganglia of the sciatic nerve. This fluid, as seen in cadavers, when methylene blue had been injected, may reach as high as the cervical region. The pain probably is relieved by the pressure effects of the saline on the roots of the nerve.

The results obtained indicates a new method whereby many of the severe, agonizing, intractable pains may be relieved by means of neurone block with alcohol or saline.

THE ADMINISTRATION AND MEDICAL SERVICE OF THE NEW YORK STATE SCHOOLS*

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When the State schools came under the direction of the Department of Mental Hygiene on January 1, 1927, they presented problems of organization requiring careful thought. For many years they had been inspected by the State Board of Charities and subsequently for some years they had been under the general direction of the State Commission for Mental Defectives. However, neither of these bodies had fiscal responsibility for them and supervision was more in respect to general policies than specific details. Until quite recently, therefore, there has not been uniformity with respect to the salaries and duties of the various employees, and full uniformity of organization does not exist at the present time, as each superintendent has worked out his own problems of administration to a considerable degree. Such lack of uniformity has been due to the difference in character of the institutions themselves. When Syracuse was established in 1854 it was for trainable cases. The more favorable types are still received there. Rome State School, originally the Oneida County Insane Asylum, was started as a custodial institution for males, low grade, in 1894, but has received all types of mental defectives for some years. Newark was started as an institution for mental defective females of child bearing age, in 1878, and still receives females only. Letchworth Village which was started in 1911, receives all types of cases. Not until the male division is in operation at Newark, can there be general uniformity in these institutions, and even then Syracuse will present special problems.

To the credit of the superintendents, it should be stated that excellent results have been accomplished as shown by the care of patients, the respect which the institutions have commanded throughout the State and in the general success of the work. It must be admitted, however, that the State schools have suffered in various ways, viz: in lack of appropriations for new construction, and therefore in necessary expansion; in lack of adequate salaries for

* A report of the medical work of the State schools following visits made during the spring of 1929.

employees and in other facilities. If it is felt that the State hospitals have lacked in these respects in the past, how much greater has been the lack in the State schools.

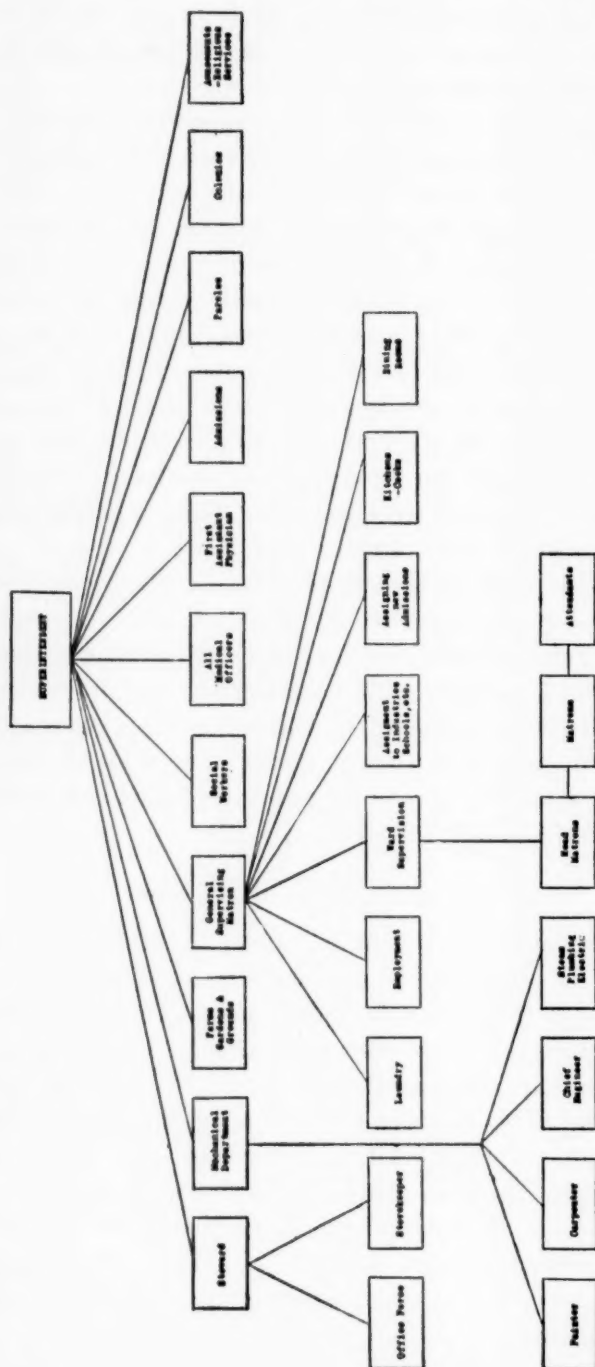
As far as the provision of beds is concerned, the care of mental defectives is a small problem compared with the care of the insane, but the general problem of mental defect in the community is regarded by many as important as the problem of mental disease. The care of mental defectives and their training has been regarded by many as a custodial problem only, a view which was held earlier in respect to mental disease and epilepsy. The care and training of mental defectives is a psychiatric problem, however, differing from that of the insane in that it deals with a different type of mental incapacity and with younger subjects who require teaching, but similar to it as to pathological origin, need for research under medical direction and need for social control of the patients along psychiatric lines.

The medical work of the State schools until quite recently, has been too largely confined to the physical care of patients. The physicians in charge have not had full contact with the general welfare of the child, including his teaching, social supervision or preparation for life in general. The following remarks and recommendations are offered in no way as a criticism of the work done in the State schools, but rather as suggestions for desirable changes in administration and other activities.

GENERAL ADMINISTRATION

Although problems of general administration will not be dealt with fully at this time, as the medical service is chiefly under consideration, certain facts may be mentioned. The State schools vary not only as to medical service, but also in the responsibilities of other departments such as the steward's department for example. In some of the State schools, the engineer, the farmer, the laundryman and other employees all report directly to the superintendent and the steward has little contact with them. In the State hospitals, the steward is responsible for a large group of employees. This latter administrative plan is in keeping with the organization of the other institutions of the Department and is desirable for the larger institutions.

DIAGRAM A



SCHEMATIC OUTLINE OF PRESENT ORGANIZATION OF STATE SCHOOLS SHOWING UNDESIRABLE FEATURES

In the State schools, matrons, head teachers, social workers and others, who care for the child in respect to training, discipline, parole and other activities, often report to the superintendent directly about a case. Recommendations regarding the disposition of a given case may not come to the superintendent through his medical staff, but often through these other departments. The result has been that the superintendent has been obliged to familiarize himself about each case as reported to him—a possible task in a smaller institution, but quite impossible either in justice to the child or the superintendent in the larger institutions such as exist today in this State.

Diagram A is schematic and does not apply entirely to any one institution, but it indicates in a general way the present administration of the State schools. It is seen in this scheme that the superintendent is directly responsible not only for many details of administration, but for certain duties which should be included under the medical department, such as ward administration and supervision of social service and teaching activities.

Diagram B is likewise schematic, and is offered as an outline rather than as an exact plan for any one school. It shows how certain administrative duties may be decentralized to advantage. This does not mean that the superintendent will not still direct general activities as heretofore, but the details of management will be under the charge of the medical department and the steward's office.

THE MEDICAL SERVICE; CONDITIONS FOUND

Admission Service. Three of the four institutions have an admission service. The fourth admits cases directly to different wards, depending upon the classification of the case. Three of the institutions have a quarantine period for admission cases; the fourth does not quarantine new admissions. The admission services of three of the institutions are in hospital wards and in two of these the admission ward is separate; in one it is a part of a general hospital ward. In the latter instance the hospital ward is large and a separate small adjoining ward for admission purposes has been planned and probably will be more satisfactory. It would appear that an admission service for new cases in a separate ward for a period of observation and for examination is desirable in all of the institutions. This gives a better opportunity for completing

case records and for more thorough study of the case. The need of a quarantine period is open to question. It may not be necessary especially in view of toxin anti-toxin, etc. The matter requires further study. The use of a separate admission service in itself constitutes a natural period of quarantine.

The Medical Records. The medical records in three of the four institutions as examined, were found to be incomplete and inadequate in certain particulars. The histories were best when obtained by sending a social worker to visit the home, interview the parents and make first hand observations. They were least satisfactory when furnished on a blank form sent out by the institution. In some instances complete histories were obtained through correspondence with welfare agencies which had been interested in the case. More satisfactory case histories can be obtained when relatives visit the institution. Previous to districting the State, this was not possible to any extent, but at present more case histories can be obtained by this means.

Physical Examinations. In two of the institutions these were comparatively brief and in one were written out in long hand. In one they were detailed and complete. More uniformity of physical examinations throughout the institutions is desirable, although in the medical records examined, the physical examination was relatively more complete than the other parts of the case histories.

Mental Examinations. Mental examinations of the patients on admission similar to the psychiatric examinations made in the State hospitals, should be made by the physicians. These were fairly satisfactory only in two of the institutions, and in the other two they were meager and consisted of summary findings rather than descriptive observations.

Psychological Examinations. These were made by the psychometric examiners. In all of the institutions these were relatively complete and were more detailed than the other part of the mental examination. The psychometric examinations were quite exhaustive in one institution, not only as to the number of tests given, but as to subsequent retests.

Continued Notes. These were kept in all of the institutions and relatively were more full than the initial mental examinations or past history and family history.

Statistical Data. Statistical records may not appear of great immediate importance in understanding the individual cases. However, a collection of reliable data regarding mental defectives is of great value. Without it our opinions are formed from impressions and surmises, which often may be inadequate or even contrary to the facts. Statistical data throws light upon such topics as types of cases admitted, physical diseases or defects, the part played by heredity, injury or disease, and the importance of race, environment and other factors as related to mental defect. It is easy to see that such general knowledge of mental defectives and maladjusted children is necessary if the problem is to be fully understood and if plans for their care are to be successful. Detailed statistical records of the insane have been of inestimable value in a variety of ways and similar data concerning mental defectives and maladjusted children should be available. The statistical data sheet should be made out after the case has been studied and the facts concerning the patient have been fully ascertained. The physician who studies the case should be responsible for filling out this sheet and also the statistical admission card.

The Filing of Medical Records. In three of the institutions the medical records were not kept on the service. The filing of medical records in the central office makes it necessary for the physician to leave the service to dictate his notes. Likewise, he does not have the record on the service available at all times for reference. In three of the institutions the physicians did not have an office on the service except in the hospital in one instance. In one institution small offices have been erected adjoining one of the ward buildings where notes are dictated, records are kept and near which is a small dressing room for minor surgical dressings. Offices for physicians on the services are needed, as then the medical work pertaining to the service can be carried on independent of the central office.

Contents of Medical Case Histories. In two of the institutions the medical records contained the commitment papers and also general correspondence which did not pertain to the medical history. In some instances the medical history was meager as was the general medical record of the case, so that the folder did not constitute a medical record at all, but rather one of general facts pertaining to the patient. In one institution the social worker's history

was not a part of this record. In two of the institutions the commitment papers were kept in a separate file and the medical history consisted of the admission note, the family history, the past history, the physical examination, the medical examination including the psychometric tests and including continued notes. In one of these institutions complete laboratory reports were found in the hospital record as well. The medical records in these two institutions were much more satisfactory than in the two former.

Stenographic Assistance. Insufficient stenographic help was found in two of the institutions and more assistance will probably be needed in a third. In two institutions the physicians find it necessary to make meager notes and summaries, as the stenographer does not have time to type more detailed records.

Staff Meetings. Staff meetings are held regularly in two institutions. These should be presided over by the clinical director. They should be attended by the medical staff, social workers, the psychologist and the head teacher. The case should be prepared in detail as to family history, examinations, etc., before being presented. A diagnosis should be made at the staff meeting, if possible. Recommendations for training, possible parole and other problems about the case, should be freely discussed. Well conducted staff meetings at all of the institutions will be of much value for the understanding and treatment of each case.

Parole and Discharge. In two of the institutions patients were paroled or discharged without staff meeting conferences. While such conferences may not be necessary for the disposition of certain cases, free discussion will afford an opportunity for those attending to understand the various problems involved in any given case and will be of much value in the training of the younger members of the medical staff, the social workers and other personnel. *The practice of referring cases to the Board of Visitors for discharge should be discontinued, as the board can be in no position to pass on individual cases.*

DESIRABLE CHANGES IN THE MEDICAL SERVICE

The medical service should not only be responsible for the keeping of medical records, of the clinical work and of the care of the acutely ill, as has been the case in the State schools to a great

extent in the past, but there should be assigned to it certain other responsibilities mentioned below.

The First Assistant Physician. This officer under the superintendent, should have direction of the ward service, including matrons, supervisors and attendants and such other general administrative duties as are assigned to him by the superintendent. He should report any special problems to the superintendent, but should relieve the latter of many details. In some of the State schools the ward service including directions to supervisors and attendants, is administered by the chief matron, and members of the medical staff have only indirect contact with this service. As a result the attendants and matrons do not feel fully responsible to the physicians.

The Clinical Director. A clinical director is needed in the State schools quite as much as in the State hospitals. His work should consist of duties very similar to those of the corresponding position in the State hospitals, namely, direction of the clinical work, attending to the teaching of the junior physicians, the direction of research and scientific work and the general supervision of medical problems, including the teaching, training, parole and discharge of patients.

The Psychologist. A well-trained psychologist should be on the staff of all of the State schools. The psychologist should be under the clinical director and have the rating of either assistant physician or senior assistant physician in the salary schedule. Many children require not only one psychometric examination, but several. The findings and recommendations of the psychologist are particularly valuable in the school department.

The Ward Service. The ward, classification of patients on wards, transfers and assignment of patients to work and to school or in colonies, should be directed by the medical staff. Needless to say, all conduct or disciplinary problems should be under the direction of the physicians, and disciplinary measures of any significance should not be permitted except under medical order.

The School Work and the Head Teacher. The school work should come under the control of the head teacher and her staff. She in turn should report to the clinical director or first assistant physician. The medical staff should assign children to the classes

and decide what cases should receive different types of training in consultation with the head teacher. The school work should include academic work, industrial training, gymnasium activities, music and other school activities. Teaching is one part only of the general program for the child and should not be separate or distinct from the child's other activities in the institution. The superintendent will naturally direct this program, but it should be carried out through the medical staff by the head teachers, but not without close contact with the medical service.

The Social Service Department. This should be under the direction of a chief social worker. Under social service work should be included the taking of histories, parole and after-care supervision, the oversight of patients in colonies, the finding of occupations, etc. These duties should be under the direction of the psychiatric social worker, and the duties of the work termed "the parole agent" or "parole officer" should be included under this department. The social service department should be directly under the medical department with which it is intimately associated.

The Colonies. Colony life should constitute a part of the training and education of the child. The colonies should be under the medical service and the placement of children in colonies, their parole from the colonies or transfer from one colony to another under the direction of the medical staff. These duties should not be delegated to the social service department or elsewhere.

Lecture Course for Attendants. This has been given in three of the four institutions from time to time, but not regularly. It is desirable to have a lecture course for attendants similar to that given in the other State institutions. Such a course serves to keep up standards of care, establishes the proper attitude toward patients and gives attendants a sense of responsibility and a respect for their duties. Changes of attendants are not much more frequent in State schools than in the other State institutions.

The Institution as a Training Center for the Medical Staff, Social Workers and Other Personnel. It may appear that the various recommendations above regarding completeness of medical records, staff meetings and further recommendations regarding the medical service, do not contribute directly to the immediate needs of the patient or to his care. This fact may be true to a limited extent.

Staff meetings, a complete case record, discussions and research may be of little assistance to an already hopeless case. Such activities, however, serve as a training center for the less experienced physicians and social workers. These physicians and employees receive training for work for which they will be directly responsible later. The State schools should in this way, form training centers in problems of mental defect, in child guidance, and community welfare in psychiatric problems for children. From the physicians, social workers, psychologists and other employees of these schools, through their experience and training, should come leaders in this field. The fact that this has not been true in the past is because of the lack of organization of the schools as research and training centers rather than through lack of ability of the personnel of these institutions.

COMPARABLE PROBLEMS IN THE MEDICAL SERVICE OF THE STATE HOSPITALS

A comparable situation in respect to medical work existed at one time in the State hospitals and probably all of the defects have not been corrected. Reference is made to the following report, "The Medical Service of the New York State Hospitals"—Dr. George H. Kirby, Dr. W. L. Russell and Dr. John R. Ross, (STATE HOSPITAL QUARTERLY, November, 1924). A number of excerpts taken from that report show the conditions which existed then in the State hospitals compared to those which exist now in the State schools, viz.:

"Our observations convince us that even in our smallest State hospital, the superintendent, as the responsible head of both the business and medical divisions of the institution, cannot possibly give the time and personal attention to the details of the general medical and psychiatric work that these subjects now demand. Clinical directors were introduced, we believe, with the idea that all of the medical activities should be organized and correlated into a functional unit, just as are the activities of other departments of the institution, with a competent head able to direct the work and capable of carrying out the plans and policies of the superintendent, and, of course, responsible to him. The committee feels that some superintendents have failed to grasp adequately the purpose and possibilities of this position and have failed to provide means for delegating responsibility for the details of the medical organization and supervision of the clinical work of the staff. Even where clinical directors have been appointed, we found, in some

instances, that there was little evidence of any internal reorganization or change in medical administration such as would be expected."*****

"The correlation of the social service work with the medical service was found to vary greatly in different hospitals. In some institutions the physicians evidently knew little or nothing of what the social service workers were doing with their cases and there appeared to be little disposition to utilize or guide the social service workers. In one hospital we found the social service workers apparently quite detached and trying to operate without adequate medical direction, supervision or office facilities"*****

"*****The committee found that several hospitals, even those in which the different services were widely separated, still maintain the old central staff office, near the administration center, where physicians are required or expected to spend a considerable part of their time and do certain kinds of work"*****

"It seems hardly necessary to argue the point that a physician in charge of a service should have a proper place to do his work and proper equipment with which to examine his patients. We found, however, that many physicians with large services had no place where they could privately examine patients, dictate notes, take anamneses or interview visitors without considerable inconvenience to themselves or others and great loss of time."*****

"*****The method of keeping clinical histories varies considerably in different hospitals. In some the record system is poorly organized, with the result that it is difficult to find readily all of the notes and reports on a given case. In one hospitals we found parts of case records were filed in four different places, in another in three different places."*****

"In one hospital we found that almost no attention was given to taking anamneses, very few being obtained by either physicians or social service workers; while in another hospital similarly located as to accessibility for visitors, we found in every case record, of the series examined, that a very good anamnesis had been obtained by either a physician or a social service worker."*****

"In some hospitals there is a reluctance to have the case histories remain outside of the main administration office, while in other hospitals the case records (except, of course, the commitment papers) are kept on the different services, handy to the physician, who needs them more often than does anyone else. Properly organized, the plan of keeping the history on the service where the patient is, has many advantages, and the experience of several of the hospitals shows that the chance of records being lost is very slight."*****

"*****One hospital, because of the lack of stenographers, does not have any part of its case histories typewritten, except a short abstract, all the rest of the record being written in long hand by the physician. The case

histories in this hospital were generally incomplete and the clinical records did not indicate that the mental and physical condition of the patients had been sufficiently investigated."*****

"A reception service or reception hospital should be an active treatment center where the most difficult and responsible medical work of the institution is concentrated. It fails in its chief function if new patients cannot be kept a reasonable length of time for examination and diagnosis and determination of a plan of treatment for all cases received as well as for the intensive treatment of certain types."*****

"The committee was surprised to find that in some hospitals the physician in charge of the reception wards did not have his headquarters or office on the service, with a place for clinical records and stenographer and the necessary equipment and facilities for examining the new patients, but was obliged to go to a central office some distance away to do a good deal of this work."*****

"In some hospitals we found that staff meetings were well conducted, the cases well prepared, the physicians were interested, and both the staff and the patients benefited from the presentation and discussion. In other places there was a noticeable lack of system and preparation, the level of interest was not high, and little was accomplished except the fulfillment of official requirements. The perfunctory character of some staff meetings was quite depressing. The committee considers it an unfortunate circumstance that some superintendents rarely attend staff meetings and take little or no active part in this important aspect of the medical work of the institution."*****

This full report under the above title may be obtained from the department. Many other details and recommendations are incorporated in it, but until there is further development of the medical work of the State schools, many of the recommendations of the State hospital report cannot be carried out. Furthermore, some of them are not applicable to State school problems.

RECOMMENDATIONS

Observations and recommendations after visiting the State schools as recorded in the preceding pages, may be summarized. Two main objectives are uppermost in the work of the State schools. The one is the care, training and preparation for life for the children committed to the institution. The other objective is the educational work of the school in respect to the problem of mental defect in general, the dissemination of this knowledge to the general pub-

lic, the training of the personnel of the institution, and research work. Anyone visiting the State schools will agree that the first objective, namely, the care and training of the children, has been given very serious attention and is carried out to a satisfactory degree in most particulars.

At one time in children's institutions the custodial idea was uppermost. Efforts were largely directed toward accommodating the children to life in the institution. Preparation for life in the outside world was lost sight of. The officers were more concerned with discipline and conformity to rules and regulations than with teaching, development of self-reliance or with their preparation for life in general. This repressive atmosphere is not found in our State schools. However, evidences of this mental attitude is doubtless met with from time to time among a certain number of employees. Broad supervision of all activities pertaining to the child by the medical department is the best safeguard against this tendency.

It will doubtless be agreed that there should be improvement in training of personnel. To repeat what has been stated above—physicians, social workers and psychologists of these institutions should be leaders in the problems of mental deficiency and child guidance in their respective fields rather than followers under the lead of other organizations and institutions.

Little has been said concerning research in this report, not because there is no need for it in the field of mental defect, but because certain changes in the present medical organization are desirable before it can be effectively undertaken in most of the institutions. Research in neuro-pathology, bio-chemistry and general pathology is highly desirable, and research along various sociological lines and in training and teaching methods should likewise be made. It is unnecessary before a group of workers in this field, to further state the need of research in these directions.

General recommendations only can be made at this time in respect to the organization and administration of the various departments in the State schools. In respect to the responsibilities of the steward's office, for example, and the department under which the laundry, engineering, work shops, the mechanics, the farm and other administrative divisions shall be placed, reference is

made to Diagrams A and B on pages 350 and 352. The details of organizations in any general plan should be made according to the size of the institution.

SUMMARY OF SPECIFIC RECOMMENDATIONS

1. The medical service should have supervision over the social service department, ward and dormitory service and the school work, the medical staff having general oversight of these activities through the chief social workers, head teachers, supervisors, etc.

2. In the larger schools the *first assistant physician* should coordinate the various departments within the institutions, subject to the direction of the superintendent. In the smaller schools his activities may be less administrative and more medical.

3. A *clinical director* is needed in the State schools and should have the direction of all medical activities, including research, staff meetings, the examination of patients, medical records, teaching work, the instruction of new members of the staff, parole, discharge of and treatment of patients in general, broad medical and psychiatric oversight.

4. A *psychologist* with the same rating on the salary schedule as assistant physician or senior assistant physician, should be on the staff of each State school. The duties of this worker should include not only psychometric examinations, but also recommendations regarding school work.

5. *Dental work* is carried on at the present time in all of the State schools, either by a resident dentist or by a dentist employed for the purpose. Continued dental work including cleaning, repair and extraction, is necessary for a great number of the children. Present facilities as to quarters are adequate in two of the institutions.

6. *The social service department* should be in charge of a chief *psychiatric* social worker with assistants, and this department should have charge of the taking of histories, parole and after-care visits, supervision of cases paroled from colonies, the placing of parole cases in vocation and other social service duties.

7. *The ward and dormitory service* should be under the medical department. In this way the supervisors and attendants on the ward service feel their responsibility to the physician in charge of

the service. This arrangement does not exist in all of the State schools at the present time.

8. *The colonies* in these institutions should be under the medical service, with the same direction as the ward and dormitory service. Colonies for males and females should be established by all of the State schools. However excellent the school work may be, it is very difficult to prepare a child for life through residence in an institution exclusively, and experience in the more normal life in colonies is necessary. The lack of colony training accounts for failure in many instances in the past.

10. *Proper buildings and adequate teaching staff* with equipment and facilities are absolutely essential in each State school. School work should form a nucleus around which many other activities revolve. It should include academic, vocational and manual training, recreation activities and training in social relationships as given in various ways. The school should be under the general direction and supervision of the medical department.

11. *An admission service* where a detailed examination of the child may be given, is desirable in all institutions, despite the fact that one of the institutions has functioned very satisfactorily without this service up to the present time.

12. *Physicians' offices* should be established on all of the services for examination of patients, the keeping of records and interviews.

13. *Stenographic assistance* is essential in taking notes, keeping records, etc. When not available, records are not complete and the examinations themselves are apt to be superficially made.

14. *Medical records* should be decentralized and kept on the service. Medical records should contain statistical sheets, admission notes, anamneses, physical, mental and psychological examinations, laboratory notes and continued notes. Facts not pertaining to the medical history should be kept in a separate file in the administration office. It is not necessary for superintendents to have records near their desk in the central office. Records are now too meager in most of the institutions, and fuller details throughout are desirable in the various parts of the records mentioned above.

15. *Staff meetings* should be presided over by the clinical direc-

tor and attended by the medical staff, social workers, psychologist and head teacher. Staff meetings add much scientific interest to the work, permit expression of different opinions regarding the problems of any one case and correct certain tendencies as to liberal or too ill-liberal policies in respect to parole.

16. *Assistance in child guidance clinics* has been furnished by the State schools. This has been of much value to these clinics and likewise to the physicians, as it has given them clinical experience and community contacts. These clinic activities should be continued in the State schools.

Favorable comment is made at this time of the activities of the superintendents and the staff in various community affairs. In all four of the institutions the superintendents have taken an active part in the welfare of the community in this particular field.

CAFETERIA SERVICE IN STATE HOSPITALS*

BY JOHN R. ROSS, M. D.,

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A couple of years ago, Dr. Kieb, Dr. Harris and I visited the Worcester State Hospital for the purpose of studying the cafeteria system of food service. A discussion in the Construction Committee, as to which was the more satisfactory, the cafeteria system or dining rooms, in which different types could be segregated, led to this visit and its purpose was to outline a policy for New York State in future construction.

We arrived at the Worcester State Hospital in time for the noon meal. Dr. Bryan explained that the cafeteria was a temporary arrangement until their new dining room, which was under construction, could be finished. We requested that his disturbed group of patients be sent through the cafeteria. Dr. Bryan complied with our wishes and we saw these patients fed. I regret that at the time I had not sufficient vision to see the possibilities of self-service. The cafeteria at that time did not make a strong impression upon me, although I had to admit it was practicable.

From Worcester, we went to the Foxboro State Hospital, where an entirely different form of food service was in operation. In a large congregate dining room, ten vacuum food trucks were wheeled in, and placed opposite tables which were arranged on both sides. At the sound of a gong, the food trucks were thrown open and an employee on each side of the truck served the meals from these trucks. The food was hot and the meal was served in an orderly manner. At that moment, I was more impressed with this form of food service than I was with the cafeteria system at Worcester. I believe both Dr. Kieb and Dr. Harris felt the same way.

Sometime afterward, I was informed that the new dining room at Worcester was in operation and I again made a trip with my steward to see it, I must admit, with some misgivings. I had become convinced that the food service at Foxboro was the best I had seen. We arrived at Worcester unannounced. Dr. Bryan was away. We saw what in my opinion was the finest food service I had ever witnessed

* Read at Quarterly Conference at Harlem Valley State Hospital, June 22, 1929.

in any institution for the insane that I had visited. If a person were not informed that he was in an institution for the insane, I doubt if he would have noticed anything very different from a dining room serving any group of persons. The room was very attractive. The patients came through in an orderly manner. There was a choice of food which was served hot and the patients seemed to be pleased with the food. I talked with some of the more intelligent patients and they said they were getting better food than ever before and that this form of service was much more satisfactory than anything they had had previously in a state institution.

From the patients' cafeteria we visited the cafeteria for employees. Again one was impressed with the procedure and with the fine quality of the food. I inquired as to the amount of food allowed and was surprised to find that the ration allowance in the State of Massachusetts was less than that in New York State, yet the quality of food being served at the Worcester State Hospital was far better than anything I had seen in New York State. I must admit that the prices paid for some of their food was in excess of that paid in our State. For example, fresh fish in New York State costs in the neighborhood of six cents a pound, including freight, delivered at the Harlem Valley State Hospital. In Worcester, where they are nearer the source of supply, they were paying in the neighborhood of 12 cents a pound. The steward of the Worcester State Hospital showed me figures that he had compiled demonstrating that in the course of the year they were saving from the ordinary ration allowance in the neighborhood of \$12,000 and yet they were feeding adequately and, in my opinion, much better than we are doing in New York State.

While the conditions at the Harlem Valley State Hospital were not identical with those at Worcester, we had a dining room which, in my opinion, lent itself rather satisfactorily to the development of a cafeteria system. On our return, we obtained permission from the Commissioner to try this form of service. Our dining room was opened November 14, 1928, and while it is not yet entirely equipped, I feel that it has been a success from the very day of its opening. Some of the features which I believe are advantageous in the cafeteria are as follows:

1. Every patient has something to do. Enough initiative is

developed in the patient to have the individual take a tray, get his or her meal, go to a table and after finishing his meal return the dishes to the scullery.

2. Smaller rations are served to the patients with a resulting decrease in waste. If the patients require more food, they return to the counter for a second helping. The only requirement being for a second helping is a clean plate. In the beginning we allowed patients to return as often as they pleased but we found that many of the patients returned three and four times and we used a great deal more food than was necessary. This was discontinued.

3. The supervisors of the buildings are stationed at the door as the patients come in. They have the opportunity to observe how all patients are dressed. Any patient who comes to the dining room in a slovenly manner; that is, shoes untied, hair not properly dressed, is sent back to the ward for proper dressing, and the charge attendant of that ward is required to give an explanation why the patient is not receiving proper attention. Because of this, I feel the morale of our patients is being improved.

4. A lesser number of employees are required during the meal. Only a sufficient number are needed to see that the patients are eating properly and getting sufficient food. This allows the employees to get their own meals at their cafeteria without interfering with hospital procedure.

5. The dining room, after a meal, is almost as clean as when the patients first entered. There is no scattering of food on the floor.

6. The waste from each meal is reduced to a minimum. We have averaged about 3 pounds per meal from about 700 patients.

7. In future construction, if this system is used, dining rooms can be of much smaller size, particularly if the wards are connected to the dining rooms by corridors. In our hospital, we have no corridors and we have to feed by wards. Seven hundred patients go through our cafeteria in about one and one-quarter hours. With a corridor connecting these buildings, at least one-third more patients could be fed in this dining room in the same length of time. That is to say, in a dining room originally planned to take care of 600 patients by the congregate system, at least 1,000 patients can be fed by the cafeteria system with considerably less crowding.

The statement has been made that the cafeteria may work with

a certain type of patient, but it would not be a satisfactory arrangement for all. It is my opinion that any patient who is able to walk and strong enough to carry a tray, can be fed in the cafeteria.

The entire population of the Harlem Valley State Hospital, with few exceptions, are transfers from the Central Islip, Kings Park and Manhattan State Hospitals. It is unnecessary for me to tell the superintendents who receive transfers from the Metropolitan district what the types of cases are. One superintendent of a metropolitan hospital informed me that I was getting the "run of the mine". After seeing the group of patients that arrived, I was strongly inclined to feel that the "run of the mine" certainly in the metropolitan district consists mainly of "clinkers". Nevertheless, this group of patients you have seen today go through the cafeteria in an orderly manner.

What is needed to bring to the highest standard the food service in the State Hospital System of the State of New York? I feel that the supplies which we receive are all good on the whole. Occasionally, there are some bad shipments which are rejected. Preparation of the food, however, is a different proposition. It is far from what can be desired both as to variety, cooking and balance. This is due mainly to a constantly changing personnel in our kitchens, and to improperly trained individuals who do our cooking. I recently talked with a cook at a lunch counter in Poughkeepsie. He was a good cook and I suggested that he might be interested in taking a position at the Harlem Valley State Hospital as head cook. He asked: "What do you pay?" and when I said \$90 per month with maintenance, he laughed at me. He also informed me that he had been in the State service and that his experience was that we did not have any cooks in the institution. This, I believe, to be debatable. I believe that the greatest need in our food service today is to have in charge of it an individual who is capable of preparing dietaries, to supervise the cooking and with the experience to see the food properly served. In other words, it is a one-man job to follow the food supply from the time it is received in the institution until such time as it is used by the patients. It is impossible for either the steward or the superintendent to devote the time necessary for proper supervision of food service; particularly so when the units are as scattered as they are in most of our hospitals.

The idea may appear fantastic, but I believe it would be practical to establish in one of the hospitals, a school for the development of institutional cooks. We spend considerable time and money in developing nurses, most of whom leave us as soon as they receive their diplomas. The question of proper feeding is just as important as proper nursing, yet it is one of the most neglected parts of our work. I am firmly convinced that the salary of an individual assigned to this work can be saved in food, and we would have, in addition, proper supervision of meals with a much improved dietary from the standpoint of variety and preparation. I am convinced of this because I have seen it demonstrated at the Worcester State Hospital.

The cafeteria service at the Harlem Valley State Hospital is not yet anywhere near what we desire to have it. Certain equipment, particularly for the service of tea and coffee, is necessary. Estimates are now under way to install this equipment. It will take some time to develop the cafeteria at this hospital to the standards maintained at Worcester but we hope to equal and, if possible, surpass it.

PSYCHOTHERAPY AND THE CRIMINAL INSANE

BY BEN KARPMAN, M. D.,

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Increasingly it is becoming evident that our methods of dealing with crime have so far failed of their purpose, for crime is increasing and no relief seems to be in sight. Neither has our approach towards the understanding of its etiology and pathology been productive of any satisfactory results, for we are still ignorant of the basic motives behind the criminal action. If now legal measures have failed of correction, and sociologic and statistical methods of understanding the dynamics of crime, may it not be that crime is in the main a problem that must be solved by means other than legal and its motives uncovered by methods other than orthodox sociologic? Recent studies seem to support this view, for the psychiatric approach, as yet very limited and narrow in its scope, has already thrown a flood of light on the nature of crime; and this perhaps because the psychiatrist emphasizes the individual more than the action. Practically the entire source of information has come from the study of the criminal insane. Who are then the criminal insane?

I

Our society contains among others, a certain number of individuals or groups of individuals who, by reason of mental and psychic deviations, fall below the normal in their social adaptation. However, such individuals may differ markedly from the normal, this difference does not preclude their being socially useful; and it is only the poorest of this material that requires institutional confinement or comes in conflict with law. It is a matter of fact that the greater number of defectives are socially useful; a certain number of them present social problems, but are easily institutionalized; but it is the weakest and poorest of them that eventually find their way into a hospital for criminal insane because their mental deficiency makes them easy and gullible victims of the more clever and intelligent criminal while the mental and psychic reaction is such as to clearly betray an abnormal make-up.

Similarly, we find in the neurotics, individuals who, although carrying heavy psychic burdens, make in a majority of cases, an adequate social adjustment. However, the more difficult and stubborn cases among them find their way into a hospital for the insane, while a certain number of these, because of a breach of a particular social discipline, become inmates of a hospital for criminal insane. A like situation obtains with the psychotics, a large number of whom are unrecognized and extra-institutional; some are confined in a hospital for the insane, while a certain number of them, of the more dangerous types, come in conflict with law by reason of their anti-social behavior conditioned on their psychosis, and thus eventually land in a hospital for criminal insane. And then we also have the (constitutional) psychopath who, in a majority of cases, parasite-like, feeds himself upon the good will and gullibility of his more normal brother, and sooner or later comes in some conflict with law; and of these, a certain number constituting the less balanced individuals, are sent to a hospital for criminal insane. Finally, we have the "normal" criminal who, quite accidentally having come into serious conflict with law, breaks down mentally while in confinement and because of the mental reaction displayed is sent to a hospital for criminal insane.

Such, in general, are the types of individuals that constitute the population of a hospital for criminal insane¹. Naturally, this brief statement gives one hardly an idea of the immensely rich and varied material that is found in such institution. The stimulation to study it comes from the observation that as he abnormal is merely an exaggeration of the normal, and at the same time easier to study, the study of abnormal criminals should throw a flood of light on the genesis and treatment of criminality as such. Theirs, of the criminal insane, is a double tragedy. They are at once the toughest and the weakest, the most unsympathetic, yet the most miserable and unfortunate members in our diseased community. They represent the most unassimilable and unabsorbable element in our social system, the insoluble residue that has failed to pass through the filter of codes and standards. Mirror-like, they reflect the state's greatest crimes—crime and insanity. Because of the fact that this group

1. For a more detailed discussion of the problem the reader is referred to the *Journal of Nervous and Mental Disease*, October-November, 1926, and March-July, 1928.

has a double aspect—criminological and psychiatric, it has been studied less than any other abnormal social group, the psychiatrist believing that this is a problem for the criminologist and the criminologist in turn leaving the problem to be solved by the psychiatrist. It obviously remains a task for psychiatry. There can hardly be any doubt that an intensive and intimate study of this group which is but a fraction of the total number of the criminal and the insane, will throw more light on the psychogenesis of crime than a proportionable study of either the criminal or the insane.²

With reference to the underlying etiology of crime, many silly notions, not based on actual research have gained popular currency, such as for instance that the criminal comes from a poor home, etc. It is true that many criminals do come from poor homes, but it isn't poverty that makes criminals of them; for do we not also know many very excellent men who have come from poor and humble environments. One of the things that I have been able to find as a contributing cause of crime is the attitude of the parents and other members of the family towards this or that child; in particular, refused

2. One can approach the study of the subject in any of the several ways. A routine psychiatric history is usually valueless for any scientific investigation; for a patient's own account is hardly complete and often unreliable; and the anamneses are not always trustworthy. A psychopathologic approach with a particular emphasis on the longitudinal study of the case is much more productive of results but still falls quite short of the desired goal. Perhaps the surest approach is that through psychoanalysis for not only does it search out mechanisms and processes, but through it one may reasonably expect a social restitution of the criminal. Unfortunately, this method has hardly been tried on criminals. For its application to the study of criminals, the method has many limitations, first because universally every prisoner carries with him a paranoid attitude towards the hospital officials and does not want to trust them with his intimacies; second, in the nature of the method, it is a terrific drain on the physicians' time, for each patient that is being analyzed, must be given an hour every day, six times a week and it takes about eight months to a year to get any results; and third, it requires a great deal of caution, training and perspicacity. However, when this method is possible of utilization and is consistently applied, it brings the richest harvest of all, for it goes to the very fundamentals of human personality and uncovers motives and mechanisms that are ordinarily deeply hidden from the patient himself as well as from the observer. In the past I have had an opportunity to analyze individual cases of incest, rape, pyromania, kleptomania, pedophilia, assault with intent to kill, highway robbery and murder. Were the conditions favorable to effect the utilization of this method on a large scale, it would then be possible, for once, to know something real definite about the criminal, his inner life and what is more important, what is it that really made him a criminal.

love generates hatred and as this cannot always be given expression to, it undergoes repression only to reappear in later years in an explosive form of criminal behavior. The obvious treatment for this is to relieve the repression, neutralize the hate and by giving in its stead, love, affection and kindness of a wise and rightly balanced sort, bring about a more normal adjustment. That seems to repeat the essence of the Gospel in which love is the central theme and the suggestion sounds more sentimental and moral than scientific and reasoning; but research in the interplay of human emotions gives healthy support to this view. What do we, however, do with the criminal? To him who is a product of hate, we give still more hate in the form of confinement and punishment and privations of all kinds with the result that the criminal reaction becomes accentuated and hate and revenge become the dominating aspects of the personality. In the instance of many recidivists I have been able to observe that whatever may have been the immediate background for the first crime, the second offense often follows promptly the release from the first imprisonment and is distinctly charged with revenge—a very powerful and dangerous human emotion. This will also explain why the paranoid reaction is frequently observed among criminals, because back of a paranoid trend is hate and revenge. And here also comes the reflection that the legal measures used now in checking crime have nothing to do with the conditions that basically act as causative factors of crime. Hence, the total uselessness of such measures as the Baumes Law, of which we have now a regular epidemic. Even if one could conceive of so sweeping a plan that its execution would presently rid the country of all criminals, the next generation and even before them, would witness as large a crop of criminals as was ever seen before, because the conditions operating in the production of crime have not yet, nor in the nature of things, can ever be, touched by any legal measures. The treatment of crime is in the main, an extra-legal problem. The above are but few of the reflections that we come upon as we penetrate deeper in the psychopathology of crime. But there are many other conditions operating here, and when we learn these we shall have no difficulty in finding the remedy; it will suggest itself. Criminality can be prevented as well as redeemed but certainly not by measures at present in operation; and there is

no natural redemption. It will now be readily understood why one must look skeptically on the work done in some states, e. g., appointing one or two psychiatrists to a large prison. It is a step forward, to be sure, but it can never be expected to do more than just barely scratch the surface.

II

Merely as an illustration, and reserving for a later occasion a fuller presentation and discussion of the material, I wish to recite rather briefly the case of a criminal whom I had an opportunity to analyze.* But 27 years old, he has spent 13 years of it in reformatories, penitentiaries and asylums. He has been guilty of every kind of crime—against property, public morals and against person, including three murders. His diagnosis was invariably that of constitutional psychopathy, criminal constitution (whatever that means), but little has been done about him beyond the descriptive diagnosis until, in the course of psychopathic events, chance brought him to St. Elizabeth's Hospital.

1

His conscious memory about his parents goes to the age of 12 when he first learned that his present parents were only his adopted parents and that his real parents were gone when he was but one month old. During the early childhood years he felt that the real love he had for his folks was missing although they were real good to him. Then came a recollection going back to the age of four years when he chanced to overhear a conversation between his aunt and mother, the substance of which was about court, adoption, orphan, being treated right, etc.; and all with reference to him. It made him feel there was something wrong and missing about him and he asked his aunt about it. She told him that was none of his business and that if anything was to be told him, it would have to come from father and mother. Somehow, he couldn't muster enough courage to ask his folks about it. Things puzzled him. He asked someone what an "orphan" was, and finally figured out that he had no parents. He thought that there was much shame connected with being an orphan. Somewhere in the neighborhood he picked up the idea that an orphan is a bastard and that a bastard is the child of

* The account is given as nearly as possible in patient's phraseology.

a prostitute—three shames in one. That seems to have sealed his fate. He got to hate women, all women. A woman was responsible for his being an orphan. If they could cause one to be an orphan they could do other mean things. Each woman that he met carried the possibility of being his original mother who wronged him so by her making an orphan of him. That sealed his heterosexual fate.

He thought that a great injustice has been done him. He got to hate himself for being an orphan. And if one hates himself, he hates all others. Hate and revenge have become the determining factors in his life, guiding his conduct and his behavior. It gave him tremendous pleasure to cause women misery, playing pranks on them—revenge on all of them—getting back at them for his being an orphan. He drew more and more into himself. Often, sitting by himself, he would think and wonder who he was and why he came to be born; and if at such times a woman were present, he thinks he would have killed her. Once while in school, he was thus gazing and absorbed in these thoughts, the matron was passing. Suddenly and without any apparent provocation, he threw a book at her and if she had not run away, he would have attacked her. But something held him back and he did nothing more.

2

Feeling that his folks were not his real folks he never developed a fully adequate emotional attitude towards them. He liked them rather than loved them. Towards the father he carried a feeling of respect and liked him much more than the mother, whom he disliked a great deal. Pictured him as an ideal man, tried to pattern his life after his, but the presence of mother kept him in constant agitation. He feels that were it not for his father's interest in him, he would have committed many more crimes.

His attitude towards his mother was nearly like that towards other women, although perhaps not so intense or extreme. She was the nearest substitute to the original mother who wronged him so. Whatever she did, antagonized him, although he realized that she treated him well. He learned early that when the question of adoption of a child was discussed, the father wanted a boy while the mother wanted a girl. He got to feel that mother didn't want him any more than the original mother did. It made him feel bitter

towards her. Just as he often phantasied to find his original mother to square up with her the "little debt" for being a bastard, so, in spite of all, did he fail to respond to his adopted mother—something was dead in him, and his real feelings were manifested by petty crimes, misdemeanors, etc. Being an orphan was the cause of a lot of disobedience; figuring that he was a bastard, he thought he might as well live up to it. As long as his life was ruined, he saw no reason why he should be so considerate of the interests of others.

He began to steal when a little boy, possibly about the age of six. All his stealings from six to fifteen were revengeful acts, directed especially towards mother. He either stole directly from her, causing her discomfort and worry, or else from stores where she had an account, so she would have to go later and make it good. He often stole female articles, for which he had no use—combs, hair pins, perfume, etc.—symbolic revenge on women. Often, after stealing an article, he would immediately return it or throw it away. The stolen articles were endowed with emotional value and the stealing itself was a symptomatic act. If he wished to have a particular article and mother refused it, he'd be sure to steal it, or else steal from her the money to buy it with. Punishment, especially from mother, would increase his hate, producing an effect opposite of what was intended, and thus creating a vicious circle. A number of times he would run away from home, because he couldn't stand the discipline at home. Yet he knows that mother really liked him, and that he was given a good deal of freedom.

3

While he thus hated women, not even excepting his foster-mother, there was one exception—his aunt. Childless and apparently not very happy with her husband, she gave the boy a great deal of love. His early recollection of her goes to the age of two years when he once fell downstairs, when she picked him up and showered him with so many kisses that she made him forget his hurt. He got to like her a great deal, more than anyone else, would run to her with his little troubles and confide in her; whereas he couldn't to anyone else. He could tell a lie to others, but couldn't tell her a lie; feeling

that his adopted folks didn't care for him, he turned to aunt for love and she more than passively reciprocated.

Until the age of six, his love for aunt was more ideal. Since the age of six, after learning that some boys had dealings with their mothers, he began to show definite sex interests in her. Being near her had an electrifying effect on him. Once while she was drunk, he attempted to expose her—wanted to see her organs—boys talked about it so much. She happened to wake up and gave him a sound thrashing; since that time he never peeped on her, but she began to play a greater and greater role in his phantasy life. Often masturbated with the picture of her, phantasying having relations with her. Has often visited her bedroom staying there and just looking around or else using some of her articles. It made him feel nearer to her person. She was to him the nearest substitute for what he thought a mother ought to be. He thus split the conception of mother into two components. The hatred for the original mother went to the nearest concrete mother—his foster mother, while the love for mother which he evolved from the environment and was his birthright as he thought, he reserved for his aunt. A number of dreams are recorded with settings and associations unmistakably pointing to aunt and ending in pollution.

But this was incest and incest is taboo—less, perhaps, on his part than on his aunt's. Unable to find an outlet in incest, he turned to masturbation with incestuous phantasies which formed another obstacle to heterosexual goal. Now it was both, hate for women and love for aunt that formed a double barrier. With normal avenues closed, he was early led into homosexual activities and as years passed by, the reaction became more fixed forming an additional barrier towards the heterosexual goal.

4

He never played with little girls, always avoided them, would be mean to them when in their company, pull them by their hair, put things in their way so that they should fall. When a little girl once fell in love with him and began to follow him around, he tried to avoid her and finally had to beat her up to get rid of her. As he grew up, and at the time when the boys in the neighborhood were priding themselves on their sexual successes, it never entered his

mind to have sex relations with women—hatred kept him away from them. Later on, he began to fear that if he were to have such relations with them, he might lose his head and perhaps commit some kind of a murder, for they were responsible for what he was.

What few heterosexual episodes he had were all failures. His first heterosexual experience was at age 17, on day of enlistment in the Army; was drawn in by another soldier, didn't want to be a quitter. The erection was incomplete and the orgasm immediate and unsatisfactory, like the passing of urine. He felt that something held him back. The physical feeling was there, but not the mental reaction. The second episode, about eight months later, was also a failure. The erection was incomplete, the organ alternately erect and flaccid; finally, after 15 minutes with, as he says, "lot of will power" he took advantage of an erection, had an immediate emission with a tasteless and indefinite orgasm. The other two episodes were of the same nature. Would rather masturbate than have coitus. As a matter of fact, he did masturbate in preference to sex relations. In the course of life he has had many opportunities and temptations thrown in his way by young women, but he has refused them all. Has come to fear women, looked upon them as tigers about to leap upon their prey. Hate and fear and inability to surmount the incest barrier blocked him from adequate expression of his heterosexuality. With the release of the emotional tension which, heretofore blocked his heterosexuality, the task of his affective re-education is to bridge the transition from incest and homosexuality to heterosexuality.

5

Since the age of six and for several years after he was given a good deal to sleep walking, apparently not going to any particular place. Subsequent associations reveal the significant fact that on several occasions he got into his aunt's bed; next morning he knew nothing about it. Such spell was usually preceded by day phantasies about her. The most frequent period of masturbation coincided with the most frequent periods of sleep walking. Masturbation took the place of a forbidden act; sleep walking was an unconscious attempt to realize it.

At about the same age, he was subject occasionally to very terri-

fyng nightmares. These, it is learned, were preceded by homosexual experience. With the later repression of the homosexual desire, the nightmares have disappeared. However, the motive of the escape situation still finds occasional expression in some of the patient's dreams.

6

With antipathic emotions of hate, revenge and fear always filling his being and his constant agitation and turmoil over the great injustice that he felt had been done him by making him an orphan, it was natural that his behavior should give expression to temperamental peculiarities which were at variance with his environment. From as early times as he could recall, he has been quick tempered, although his anger easily subsided. If he'd get mad, he would do the first thing that came to his mind—stamp his feet, break, strike or what not. When he wanted something, he just wanted it and wanted it bad. It was especially in relation to his mother that he would show his temper. He would often make unreasonable demands on her, and if she didn't give in, he'd break out in a fit or steal something from her. Regardless of how many times he did it, he never seemed to realize that it would be discovered. As a matter of fact he didn't care if it was discovered or not, because he would do those things to her for the satisfaction of revenge and not for the sake of the value of the article itself. Not infrequently he would threaten her that he would leave home if she didn't give into his wish. Punishment on her part would only make him more mean and chastisements from her didn't teach him the lesson but he would invariably yield to the least scolding by his father or reprimand by his aunt. He does not recall ever having had a temper fit in the presence of the latter.

7

Because the mother was so interested and anxious for him to go to school, he did not care to learn anything, but would read a great deal instead, his mind often being filled with phantasies of being some great leader. When mother would insist that he go to church he would go to the park instead; and when punished for that, he never went to church afterwards. Against the women teachers he carried an antagonism which seemed to preclude any earnestness

in his studies; in addition he often played pranks on them. As he grew up, he went to work, but quit on several occasions for minor reasons—to spite mother.

At 11 he was sent to an industrial school, the mother thinking him incorrigible. It was a relief for him to leave home—like leaving prison. For a while, he got along well in school, then he got lonesome for home; wanted particularly to see his aunt who would write to him frequently, telling him that if he behaved himself well, he would be let out soon. So he decided to behave himself better yet, but days passed into weeks and weeks into months and still in spite of his good behavior, they wouldn't let him go home. So he decided to elope. It was fall and a foggy day. Walked and walked all night without knowing the direction he was walking in. In the morning a farmer noticed him and shot at him twice. He ran into the woods again, fed himself up on loganberries, then climbed up a tree and slept there. Next day was the same, traveling on and on. Passed by a country store, stole from there fruits and vegetables and ate all he could of it. Next he stole a pair of overalls and threw away his uniform. In three days he made 100 miles. He was nearly exhausted. Finally he jumped on a train, slept in a car in the train, and in the morning he discovered that without realizing it he got back where he started from—the institution. He started to run, was caught and brought back, given 25 lashes every night for four nights. It was a very bitter experience to him. A week later his mother came and took him home.

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But the experience in the reform school was not without profit. He learned there how better to control himself, picked up a rather good knowledge of mechanics and besides did considerable reading. On returning home he stayed there a while, working mainly in electrical shops, and contributing his share towards the expenses of the family. At 17 he decided to join the Army, motivated partly by the fact that the aunt had moved farther and because of her less frequent visits, the home didn't have the attraction it used to have. He had an uneventful first enlistment and sent part of his pay to the folks at home. There has been no indulgence in stealing since then.

It was during his second enlistment that he got into the present trouble. First it was bootlegging and selling narcotics, then a highway robbery and finally three murders in the course of an altercation, have in the end brought him to the penitentiary. While awaiting the execution of the sentence by hanging, it was commuted to life imprisonment and later to 12 years of confinement reduced to 8 years by reason of good behavior.

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Surveying now the case, we note a number of mechanisms operating to produce the antisocial reactions of the individual. Pampered and doted almost beyond measure during his early childhood, he received at the age of four a terrific blow to his pride in the form of the triple shame—being an orphan, a bastard and a son of a prostitute. The effect of this was to produce in him, along with a tremendous feeling of inferiority and humiliation, a deep feeling of hate and an equally urgent and powerful search for redress and revenge. Since he never knew his original mother and as it was thus impossible for him to centralize and release his hate directly on her, to make sure that the feeling would have its adequate discharge, he projected his hate on every woman. The reaction was the overdevelopment of the sadistic component which acting with the force of a primitive instinctive drive had in a large measure been responsible for many of his personality traits as well as for his antisocial and criminalistic tendencies. His criminal acts were thus emotionally conditioned and emotionally enacted; they were an absolute necessity to him, for although substitutive and therefore never reaching the original goal, they served for the time being as the only outlet to satisfy and neutralize his antipathic emotions.

The early intrusion of a large element of hate into a personality whose development was narcissistically conditioned prevented the adequate extroversion and socialization of his affective life. Dammed up against a powerful current of hate and prevented from flowing through normal channels, the libido was redirected into more infantile activities with homosexuality, incestuous phantasies, auto-erotism and other behavior distinctly infantilistic in nature. What love he was able to develop towards others, was in the main of the purely instinctive type, at best returning no more than was

given him. He has never loved truly because he was never able to identify himself with another person. To the role and fate of his real father, he was indifferent; the attachment to the foster father was neither by identification or substitution; it was an acquisition and mainly on an exchange basis. The love for the aunt was on a similar basis, although it went much deeper. While it was not so necessary for him to have a father, it was very necessary for him to have a mother substitute, partly to neutralize the emotion of hate which otherwise would have consumed him completely, and partly to satisfy his own and social demands for a progenitor. Incestuous attachment for aunt was made easier by the absence of a father rival. Now, with the insight gained through analysis, a reconstruction of his sex life will be quite possible. Given sufficient time and normal social opportunity he will, in all likelihood, redirect his libido from incestuous and auto-erotic channels into heterosexual channels. A striking indication of it is found when one compares his early dreams with their obvious incest trends and definite lust-mord expressions, with his more recent dreams in which heterosexual settings are more prominently displayed at the expense of the now much weakened incestuous wishes. His associations and emotional reactions give full support to this view.

What has been said of the criminalistic and psychosexual reactions and their possible reconstruction on the basis of the new insight gained, applies in an equal degree to his behavior in general. His attitude towards both his foster father and aunt formed a nucleus for his moral and cultural tendencies on the basis of which, the super-ego becomes synthetized; and it is significant that his anti-social reactions were never directed against father and aunt. The super-ego in him was never absent; it was merely not allowed to develop and express itself by reason of the barriers present. The hate element and the search for revenge have far outweighed the moral component and drove him to criminal reactions. With the neutralization of hate which was effected through the course of analysis, it was possible to build upon his love for father and aunt, a stronger cultural and moral reaction. He, no doubt, has many cultivable social gifts. With the recognition of the source and meaning of his hate reaction, the affective energy heretofore

directed into aberrant channels, will, it is believed, now be directed towards the accomplishment of socially acceptable goals.

Much more may be said about the case, but the above is sufficient for present purposes. I have no doubt that the criminal can be redeemed and that psychotherapy offers the only reasonable and scientifically valid approach. The case in question has now been out nearly a year—hardly sufficient time for a reasonable judgment, but from all indications he appears to make a much better adjustment—personal, family, social, sexual—than he ever did before. Even if he still retains some of his psychopathic traits—his selfishness, his unreliability, etc., he was at least made innocuous socially; also, he has become productive socially instead of being, as heretofore, a burden. In view of the scepticism of many as to the value of psychotherapeutic research on criminals, this aspect must be emphasized. Viewed from the purely economic point, his cost to society has been great. His 13 years of confinement in institutions has cost society about \$13,000. Assuming that he could have earned during this period at least an equal sum and we have the staggering figure of \$26,000 for one individual. Balance against this the (approximately) \$300.00, that the analysis has cost the hospital and you have in cold figures the relative value of confinement and punishment versus psychotherapy and cure. Had there been at the time in his city, a mental hygiene clinic to which his folks could have sent him instead of to the reformatory, many if not all of his subsequent crimes could have been prevented, society spared a vicious criminal and the individual himself spared the emotional cost of the adjustment he was making. Is it not worth while?

DISPOSITION OF THE HIGH GRADE DEFECTIVE

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The purpose of this article is a discussion of the disposition of the high grade defective. Such controversial questions as birth control and sterilization are not dealt with. The subject is discussed from the point of view of the psychiatrist working in the community and dealing with the diverse problems, economic, sociological and educational, which are daily faced by the school, the State, the county and urban authorities. In view of the widespread interest in the whole subject of mental hygiene it is felt that there is need for a better understanding of the high grade defective, and more definite agreement as to the attitude to be adopted and the objectives to be sought in his disposition.

It is hoped that this paper will have some value in bringing about better cooperation among those working in the community, our judges, social agents and other authorities, the Department of Mental Hygiene and the heads of those institutions to which children may be committed.

The low-grade defective affords little problem as to disposition. Obviously unable to learn in school, to adjust to the community, or to be economically self-supporting, custodial care in appropriate institutions is, in the majority of cases, the logical disposition. In a small proportion of cases, however, the home conditions are such that they can be cared for adequately and will prove no problem, economic or social.

In dealing with the high-grade defective, however, the problem becomes more involved. We are confronted by the complications of race, early training, environment, economic status, and social potentialities. We must consider not only the inherent type of germ plasm but the numerous influences acting and reacting upon the individual, causing adaptability or mal-adjustment to the conditions in which he finds himself.

Certain high-grade defectives necessarily find their way into custodial institutions. Take the psychopathic types for example. They are constantly in trouble and unable to adapt themselves to new

situations. Although they do fairly well under supervision and routine, when left to control their own affairs they prove themselves unable to meet the demands of our complicated civilization. They make up a certain proportion of our criminal population. If emotionally unstable, as is found particularly among the female sex, they prove themselves unable to control their instinctive lives. They are obviously such deviates from the normal that those coming in contact with them, even other children, realize that they are different. They are destined to be segregated and lead their lives apart from the community.

There is, however, a distinctly different type coming to our clinics in considerable numbers. In the last few years there has been a readjustment of social values. Our social agencies have become highly organized and efficient. Standards of living and social conduct have been raised. These children then are referred by a judge, social agent, local charity organization or the school. They have been brought up in an unfortunate home environment, untrained, without standards, accustomed to overcrowding, lax sex morals, alcoholism, brutality and dependency. The family may have been for years more or less dependent upon the community. Possibly the home is to be broken up because of dependency, or because it is felt that the children will not have the opportunity to develop into useful citizens of the State. The following situation must be met. Such children are not suitable for adoption because of the high standard, physical and mental, required; there is no money with which to send them to a private training school; their form of intelligence may be thought to be too low for our present type of vocational school; by reason of their lack of training or delinquencies they may not be considered suitable for a boarding home or orphanage. To describe a type, you will find a mentally retarded child usually timid if six to eight years of age, aggressive if older (the usual defense mechanism) with no fund of information, little conception of social values, no ambition, no definite objective or plan for the future. There may be a history of theft or sex offenses. These latter may vary from serious difficulties to those which exist only in the zealous eye of the referring agency. The intelligence quotient may be 60 to 75 with poor abstract reasoning and planning.

When these children are first seen the degree of intelligence should be largely disregarded. They should be considered much as any other delinquent or dependent child. Every facility in the community should be utilized. Even in case of failure in one type of environment another should be tried until it is clearly shown that there is no possibility of maintaining the child as a social unit. Experience has shown that in good boarding homes for example, these children improve a great deal, and the child who may appear hopeless at seven years of age, at ten will have proven that he is fit to carry on at least routine work in the community. Too much dependence should not be placed upon the psychometric examination of the under-privileged child of seven years of age. Without discounting its value, the future ability of the child cannot be absolutely measured, if the child has lived under unfortunate home conditions. The development of child guidance clinics, special classes, vocational and pre-vocational schools, visiting teachers, and above all the changed attitude of the parents and teachers themselves, all demonstrate that only after a considerable period of trial and the most careful consideration should a child be looked upon as not fitted to take his place in the community.

The institutions, however, are necessary links in the great chain of social enterprises which must be utilized to care for the sub-normal child. If it is necessary to institutionalize the child, what shall we recommend? We look upon our institutions as training schools and if the child is capable of training, he must be sent to that type of school for which he is suited. In the first place, the social agency must have a full understanding of the child, of his needs and of the length of training which he will require. Many agents have a very inadequate conception of our institutions, of what can be done in them for different types of children, and under what circumstances the child can be paroled or discharged. The child, who after training, can be returned to the community, should not be considered by the the social agent for that type of institution whose duty is purely custodial and in which an indeterminate commitment necessarily exists. In order that children should find their way into the proper schools it would seem advisable to have a written recommendation from a clinic psychiatrist, with the original application for admission. This would enable the superintend-

ent to more carefully pick the suitable type of case. It is not sufficient to receive a statement from individuals who, though they may not be consciously influenced, cannot take a broad impersonal view of the situation. The pressure brought to bear by local authorities for the admission of cases to institutions is sometimes very great. This is understandable when we consider the heavy burden of taxation under which some of our communities are laboring, and the lack of facilities in the community for handling defective children.

We must think of the child, not as we see him today but as we wish to consider him when of age. If institutionalized, a careful segregation should be made. We should not consider placing a trainable child, capable of returning to society, with the child obviously custodial, any more than we would place a juvenile first offender with a chronic recidivist in one of our criminal institutions.

Every trainable child entering a State school should have an incentive, which should be that he will have the opportunity of taking his place once more in the world. If the child feels that, no matter what he does, he is condemned to remain all his life under supervision, there will be no incentive for good conduct, for learning a trade or improving himself. Furthermore, a certain percentage of higher type defectives lose the power of social adaptability in institutions. The lack of incentive mentioned above is, I believe, the greatest factor. Other factors are:

1. The asocial influence of the more delinquent type with which in an institution they necessarily come in contact.
2. The routine which tends to crush initiative.
3. The high standard of conduct required.

This latter also is essential when dealing with large groups of boys and girls, but it must be remembered that often such standards are higher than those considered necessary for those on the outside. The parole girl whose conduct approximated the girl of her own class and economic status on the outside might, in some cases, be looked upon as having broken her parole, or as a moral degenerate, and brought back to the institution, her chances for ultimate freedom jeopardized. This is not offered as a criticism of institution discipline because its necessity is realized, but to indicate that our own point of view must be altered, i. e., we must

avoid the establishment of an arbitrary norm, based on our own conception of ethics and social standards.

Many high grade children entering an institution at an early age, have become institutionalized at eighteen years. They are unable to take their place once more in the community. The difficulty appears to be not with their formal intelligence which in many cases is as high as many of our citizens who are occupying humble positions in life but with their lack of ability to cope with the economic, social and sex problems which they will be called upon to meet.

The girl brought up in an institution with no social experience builds up fantasies and extravagant conceptions of life outside of the institution centering, as is natural, around sex. The same girl in the community does not lead this extravagant mental sex life as she has an opportunity to meet members of the opposite sex and obtains a proper perspective of its relation to her own life. If our parole girls, in a considerable percentage of cases, prove themselves unable to control their sex urge, it is because we have through lack of training unfitted them for the social life, to which they would have learned to adjust themselves had they not entered our institutions.

How then should our institutions meet the needs of these high-grade children?

1. The child should be seen by a psychiatrist before admission and his written recommendations received with the preliminary application.

2. The child should be placed among associates suited not only to his mentality but to his future social potentialities.

3. There should be a course of training in child psychology for all those who in any way have authority over these children in institutions, and it should be emphasized that these children are essentially no different, have the same urges, and react approximately in the same way as those who have not been admitted to the institutions. It must be realized that certain higher types can be trained for future community service. Their attempts at expression and self-development are not abnormal but are only the results of the conditions under which they find themselves.

4. The child should be given the proper incentive by means of a

most elastic system of parole and discharge, and this I think, should have more of the psychiatric flavor than exists today in our State schools.

5. The trainable child should be early adapted in our institutions to social life. This should not be when his ideas are crystalized and he is about to be sent on parole, but at the beginning of adolescence there should be early transfer to colonies with opportunity for association with members of the opposite sex, of course under supervision, with thorough training in social problems, relation of the sexes, etc.

Following the training in our colonies, unless the child can be placed in an understanding home, there would seem to be another step before the child is prepared to lead an independent life in the community, namely, a return to the boarding home conception (a small group of children not exceeding four in number) in charge of a competent woman who would act as their advisor and aid in solving the social problems which would arise during their stay with her. A relatively short probation period in such a home would fairly clearly indicate if the child had the social possibilities which would enable him to be looked upon once more as a social asset. This is of course, merely an extension of the colony conception.

In addition, I suggest for the future the possibility of State aid in the communities, to insure proper maintenance and supervision of suitable boarding homes. Such homes might be made possible in those counties which have not the facilities or the money to support such a system unaided. Another possibility might be the establishment of a State school for social rehabilitation to which carefully selected groups could be sent from the different State schools with the definite incentive that they were to be trained for life in the community.

TEACHING AS A FUNCTION OF THE STATE HOSPITAL

BY LEWIS B. HILL, M. D.,
SHEPPARD AND ENOCH PRATT HOSPITAL

After four years' experience, amounting at times to fifteen hours a week teaching in a state hospital,* I view the experiment, for it was only that, with conflicting impressions. These may be formulated in the conviction that teaching would be legitimate and a valuable function of the state hospital if it were so regarded.

Before we investigate the function of teaching, let us consider for a moment the state hospital and its functions in general. Let us arrange all state hospitals in a progressive series from the self-contained, self-sufficient institution which is content to be humane custodian to the wreckage committed to it, with a diagnostic label, of course, for good measure, to that mental hospital which aspires to be the central factor in mental health interest in its community, conducting public clinics, offering a mental hygiene educational program, following its patients into the community, carrying on some research and, of course, maintaining an active receiving service with continued therapeutic efforts on chronic wards. It is easier to be enthusiastic for teaching in the hospitals near the latter end of this series, yet it is suggested that those institutions nearer the former end of the list are equally in need of that stimulation which a teaching program offers.

As we think of the chronic population of some hospitals, let us recall the work of Sir James MacKenzie on heart disease in his villagers. In which reflection, can we fail to see many opportunities for study and insight into mental disorder, in just those hospitals whose patients are permanently under observation?

There is another viewpoint from which we may profitably consider state hospitals, namely their orientation in time. It will be sufficient to think of the hospital of tomorrow and the asylum of yesterday. It was yesterday or the day before that the asylum was the chief center of psychiatric activity, for there were no extra-mural mental clinics, psychopathic hospitals, courses in abnormal psychology, nor mental hygiene societies. Not even any thriving

* This experiment was carried out in the Worcester (Mass.) State Hospital, by permission of Dr. Wm. A. Bryan.

organizations for the dispersion of New Thought. There were fewer specialties and many good men were attracted to psychiatry; the asylum got most of these. There was but one royal road to the solution of the problem of the psychoses; that was by way of the dead house and the microscope. Furthermore, there was little market for the physician who had done his years in an atmosphere of formalin, at the eyepiece of the 'scope, except in the further pursuit of his hospital career. Finally, there was no recognized need for the large number of women workers who are now found in occupational therapy, social service and general nursing. Nobody could seriously question the sufficiency of kindly custodial care. It was a time in which one could justly be proud that he had abolished the abuses of drugs and restraint. It was in some such world, which many of you recall, that a group of young men were being taught the foundations upon which they have since built careers which have brought glory to this state service. For it was in these hospitals that a large proportion of all the well-known American psychiatrists of today were being taught, a few yesterdays ago. But psychiatry was, and is, young and in a period of rapid growth. What change has a quarter of a century wrought in state hospitals?

Today and tomorrow we find a series of institutions for the mentally ill, clinics for children, school and college psychiatrists, clinics for adults, psychopathic hospitals, foundations for research. There are rapidly expanding facilities for teaching psychiatry in the medical schools. Yes, and in our schools of social science, theology, and the psychology of education. It is not uncommon for the public to see the state hospital as the final repository for all that is hopeless, a last catch-all in this chain of agencies in which light it is felt that the state hospital is not always a very good place in which to begin a career in psychiatry. Between the multitude of medical specialists and the many extra-mural psychiatric groups, the hospital no longer has a monopoly on raw material for its staff quotas.

If we get our share of the blood and brains of youth it will be by competitive bidding against aggressive rivals. The neuro-pathologist, who was a drawing card yesterday will be tomorrow a vanishing type. For in place of organic brain disease as a sole factor, we are now seeking the basis of psychoses in the broad fields of general medicine, biology, sociology, and psychology. Must we not com-

pete in this widened field, either by purchasing men who have been taught something of these sciences or by offering the untrained an opportunity for instruction while they are in the process of caring for our patients?

It is (at least) an administrative question what proportionate use of these two methods is most economical.

Finally we are compelled to deal with the reality of social work and occupational therapy and, again, to decide whether we will buy the finished product, an educated worker, at prices comparing favorably with those in other fields, or secure young workers who can expect to be compensated in part by efficient training. We cannot now be content with kindly custody alone, but must offer at least to some of our patients individual study and therapy, medical, surgical, social, and psychologic. Nor can we longer treat our patients out of their social setting. We must be prepared to work in the community, to deal with the family, and to aid in their readjustment necessitated by the patient's illness.

Such is the change which has come upon us. It has brought its problems of administration, finance, and surely of psychiatric practice. I do not wish to be regarded as an alarmist. The problems are mentioned in the conviction that they will be met. Indeed one might with truth say that it is because the hospitals of this state have been in the forefront of progress that they are now faced with further responsibilities. It is because they are so regularly at the head of our graduated series that they are aware of a need for larger numbers of more thoroughly trained workers.

In the light of this general statement, may we now consider teaching as a specific duty of the state mental hospital. The motive for teaching is two-fold. First, it may be thought of as a means of meeting the problem of personnel, a way to attract intelligent newcomers to our ranks, a part of the system of development by which these novices become master-craftsmen; and an essential weapon against the curse of institutional inertia which unfortunately is nearly as infectious for staffmen as for patients. Teaching and being taught, keeping up on new views, and being kept in sympathy with the advances in related fields, will do much to encourage and hold the valuable people who are the nucleus of an organization whose excuse for being is the treatment of patients.

The second motive for teaching grows out of the interest which is current in mental hygiene. Some of us feel that the popular presentation of mental hygiene is unjustifiably rosy. Furthermore we doubt the lasting benefit to be had from a single mental hygiene lecture to a group of laymen who have no other contact with the problem of mental illness. Does it not appear to you that progress in mental hygiene education will be more substantial if we bring young men and women, physicians, nurses, social workers, occupational therapists and others into the hospitals for instruction in relation to actual care of patients over a period of months? These people in their various spheres of influence in extra-mural life (for most of them will not remain in institutional work) will be able to do a great deal for the promotion of sane understanding of mental health.

If the argument to this point has carried any conviction you have anticipated the next step: It is the question, whom shall we teach and how shall we teach them? Purely as a suggestion, based on personal experience, these thoughts are offered.

Those who need instruction fall rather naturally into three groups; the staff, the social service, and the ward service. It has been our policy to teach only those who were willing to have regular duties in the hospital for at least three months. This for the two reasons that we are primarily interested in teaching as a means of getting better care for our patients, and that it requires actual daily contact with the real problems of the ward to give the student practical understanding.

The how of teaching depends largely upon personal taste and ability. However, it is related to the constant pressure of work which requires that time be conserved. With this in mind, staff meetings can be modified so as to serve the double purpose of transacting the business of diagnostic labeling, disposition, meeting legal requirements, etc., and at the same time, by means of emphasis upon case work, and by comments upon mechanism, interpretation, and underlying psychiatric concepts, to offer students who attend such staff sessions practical instruction. It has been my observation that physicians, social workers and others who prepare case reports for staff meetings of that sort find renewed interest and try to get away from

routine habits of expression, such as "Etiology, heredity and overwork; diagnosis, dementia præcox; prognosis, guarded; recommendation, institutional care." In the place of these rubber stamps will appear etiologic factors, diagnostic impressions, prognostic factors, and details of desired treatment, also usually leads for further study. For regular classes, it still seems necessary to resort to some lecturing, in order that the student may be oriented rapidly in the vast maze of new viewpoints. Such lectures, to be successful, must combine practical illustration, simplicity of presentation, a degree of dogmatism, and stimulating cross reference to things the students already know or have observed. Of course, for more advanced students, physicians, and trained workers, one would prefer the seminar, selected reading, and conference on case work done by the student.

What to teach, is another question. If our purpose is to stimulate a broad catholic interest in the psychiatric way of looking at human affairs, we will wish to limit our presentation to no one school of thought. For all groups we will wish to emphasize the complexity of viewpoints represented in the organic-medical, the behaviorist, and the dynamic schools, not forgetting social and economic factors.

For the medical group, it appears necessary to drill in certain simple matters which seem not to be part of the equipment of most young physicians, among these the use of the ophthalmoscope, the spinal puncture needle, and the correlation of laboratory with clinical findings. It is regrettable to confess that there are physicians of some years' experience in hospital practice who have not yet become convinced in these matters. Furthermore the questions of the relationship of focal infections, endocrine disorders and toxic states to mental disorders need to be presented for contemplation in relation to the day's work. Hereditary and constitutional factors should be brought to mind.

But the psychiatrist needs particularly to be directed into these fields of thought, or if you will, of speculation which are less obviously related to his medical background. I refer, of course, to social and psychologic theories. The newer psychologies, mechanistic and dynamic, will, if presented fairly to young physicians enrich the observations from which they may finally arrive at a defensible

attitude towards the various problems of mental behavior, motivation, and value.

It seems to me a fair assumption that this group of physicians to which we now refer are entitled to a presentation of conflicting views. We are obligated to discuss with them for instance, the varieties of dynamic psycho-pathologies, not that we wish to convince them of the truth of one or of the error of another; rather that we may arouse interest in the relative truth of each, a matter of opinion and taste which must be decided individually in the light of clinical experience, but which will relate also to individual prejudices. These personal attitudes of the young psychiatrists deserve frank discussion, out of which may grow more tolerant understanding of others.

More explicitly, the nearly total absence of any interpretative psychopathology in state hospitals seems to have a bearing on the fact that many doctors go elsewhere to learn psychiatry. We may not believe these psycho-pathologies to be sound, yet they are much in evidence even among laymen. They are being discussed in other psychiatric circles. One wonders at their absence in our hospitals. There is a definite pressure upon the state hospital ward doctor in the direction of an interest in, and attention to, the problems of masses of patients—administrative details. In time this constant curbing tends to produce a certain blindness to the individual. It is the old story of the forest and the trees. It is my belief that dynamic viewpoints are worth presenting for the one purpose alone of arousing the doctors' desire to understand what a given patient's production may mean to him—what his bizarre actions may be intended to accomplish. This desire restores the function of vision, so that the masses of patients are again seen as individual sufferers. Their misbehavior is then not only an occasion for administrative action, it is a challenge to our understanding. As Dr. Adolf Meyer might put it, the very problems which worry the soul of a ward physician may have their origin in that physician's unfamiliarity with his patients' language.

I have felt that this subtle change in the physicians' interests was definitely reflected even on chronic disturbed wards. It seemed that the patients were aware of a greater security and intimacy—that

they felt less impelled to violent protests against their incarceration. Patients have an uncanny way of diagnosing us.

The other groups, the social and the nursing groups, need less technical, less medical instruction. They can well be given more dogmatic statements. The nurses in particular need thorough drilling in the theory and practice of what, as a book title, has been called "Understanding Human Nature". How can we practice psychotherapy if our nurses, in their total ignorance, continue at every turn to undo our work? As a general proposition will you not agree that the more you understand of the inner meaning of a patient's remarks about you, the less such remarks incense you? Nurses and attendants are also human in their response to patients in terms of the richness of their sympathy.

We come to a serious question. Who in a state hospital is to do the teaching which may be required? Who has the time, the ability, the inclination? The executive staff has its own duties. The neuropathologist is no more. If we still had him with us he would care to teach only a limited part of the material which is pertinent to current problems. I venture a suggestion, hoping that it may lead to discussion and better suggestions. Would it not be good policy in hospitals of fifteen hundred patients or more, to provide for a clinical director, to be selected on the basis of broad experience, some teaching ability, and interest in the therapeutic problems of the hospital; to be paid so that he could be comfortable, and to be held responsible along very broad lines for the quality of care given to patients, the quality of professional work of the hospital?

The first criticism which this suggestion has had to meet is that we are not justified in spending money on a man who does not directly care for patients. I submit only one consideration. Have any of you tried to care personally for fifteen hundred patients? It can't be done. It can't be done with half a dozen physicians of more or less experience as helpers. But a clinical director of common sense can be in touch with the doctors, nurses, occupational therapists and social workers who care for patients. Indirectly he can make himself felt through his students, by a very large number of patients, and in the process will be meeting the pressing need of psychiatry—the development of more competent workers.

Such a position will be hard to fill only in the event that psycho-

therapy is regarded lightly, and as long as the individual patient is less important than the administrative routine of the hospital.

SUMMARY

In a spirit of optimism I have attempted to suggest that the time is ripe for our state hospitals to undertake seriously the task of providing for the public an adequate source of thoroughly trained psychiatric workers; and of offering the early, mild, or ameliorable mental patient intensive individual help in the solution of his life problems of adjustment. In short, for the state hospital to function as the central factor in the mental health activities of its community.

That this may be, there must be cultivated an attitude toward clinical psychiatry which will place it as the real interest of a hospital, with administration as a subservient means to that end. The first step would seem to be the creation of clinical directorships in the hospitals.

This paper is presented after four years of experiment. In such a field of research, results are not susceptible of scientific expression. I can only report that, thank to a sympathetic administration, they impressed us as satisfactory. The teaching program did appear to bring in new workers, stimulate the organization, attract the favorable reaction of the public and above all to contribute to the welfare of the patients.

THE IMPORTANCE OF "REFRESHER" WORK FOR INDIVIDUAL AND PROFESSIONAL ADVANCEMENT*

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NEW YORK, N. Y.

The Standard Dictionary defines "Refresher" as follows: "1. One who, or that which, refreshes. 2. (Eng.) An additional fee paid to counsel in cases unexpectedly prolonged."

(The new Oxford Dictionary gives a third meaning to the word; namely, the colloquial one, "a drink".)

The Standard Dictionary further defines "Refreshment" as, "The act of refreshing, or the state of being refreshed; restoration of vigor or liveliness."

I think that your director, Mrs. Slagle, in assigning to me this topic for discussion, must have gone back in memory to those far-off days when, before the United States entered the World War, she was assisting in the development of curative occupations for the disabled members of the Canadian Forces by her advice and counsel.

At that time, as on many occasions since, we were discussing the question of the length of training courses for occupational therapists. As the immediate need for trained workers was urgent, the training courses then established were, of necessity, short and intensive. It was agreed, however, that whether the training courses be short or long, opportunities for further training from time to time should be provided.

In our discussion I spoke of these opportunities for further training as "Refresher courses"; the term by which the short courses of training provided for British Army officers are known. The underlying idea of those courses is that although the officers have passed through one or other of the military colleges at the outset of their career, new discoveries and methods with which they must be familiarized occur from time to time.

A further reason for providing the refresher courses was to guard against that tendency of the average human being, with

* Address at Institute of Chief Occupational Therapists, New York City, February 25, 1929.

which everyone of us present is familiar, to become stale after a time in the daily routine procedures of our work.

One of the dreams of the American Occupational Therapy Association has been the establishment of short, intensive summer courses, at one or more convenient centers, where occupational therapists might go to refresh themselves by suitable lectures and instruction in new ideas and methods of procedure, and receive fresh stimulation by discussion of their mutual problems with their fellow workers. I need scarcely say to this audience that the last-named is not the least important feature of such gatherings of workers.

Because of financial limitations, it has not yet been possible for the American Occupational Therapy Association to arrange such courses, and other means have had to be resorted to for the purpose of providing professional refreshment for the workers in this field.

First and foremost of these other means, in my opinion, is this Annual Institute of the Chief Occupational Therapists of the New York State Hospitals and related institutions. Although my professional interest in occupational treatment has, perforce, to be secondary to my interest in other phases of hospital work, I can testify to the great value that your annual institutes have been to me in broadening my knowledge of curative occupations, and deepening my conviction of their value. I esteem very highly the privilege I have had of attending them each year since they were organized.

To you who are face to face daily with the manifold problems and difficulties of providing curative occupations for large numbers of patients, suffering from a wide variety of ailments, it seems to me that the value of these annual institutes, as a means of increasing your knowledge and renewing your inspirations, must be inestimable.

In point of fact, I believe that these annual gatherings, with their carefully diversified and practical programs, have played an important part in the phenomenal growth of occupational therapy, and the increasing success in its application, during the past few years, in the various institutions under the State Department of Mental Hygiene.

Of equal importance, in my opinion, are the annual meetings of the American Occupational Therapy Association. I need not enlarge on this general statement; as every profession long ago realized the need and value of annual conventions. Incidentally, of course, this implies membership of all professional workers, in whatsoever field they may be engaged, in their respective national organizations.

A concomitant value of membership in the American Occupational Therapy Association (and, of course, other national professional organizations) is that the association publishes an official organ—Occupational Therapy and Rehabilitation. The high character of this organ, and the great practical value of its articles, have made it very useful as a means of refreshment for occupational therapists in this country and abroad.

Next in order of importance and scarcely less in its potentialities of usefulness than the work of the national organization, is the work of some of the State and local occupational therapy associations. In the course of my professional journeys, it is often my privilege to attend the meetings of these associations; some of which carry out definite programs for the edification and instruction of their members.

It is a matter of pride to me, however, to say that the New York State Association of Occupational Therapists has, ever since its organization several years ago, set an example to all other State and local associations by arranging each year a definite program of very valuable lectures, interspersed with demonstrations of practical work, for its monthly meetings. During the present season, for example, a course of lectures on Educational Psychology is being given by Professor Paul Vining West, of New York University, and is proving exceedingly interesting and useful.

In places where group meetings of that type are not feasible, workers in individual hospitals are often able to arrange self-improvement classes. A notable instance of this was the course in Principles of Design, given by a noted specialist, which was organized (and paid for, I may say) by the occupational therapists at the Brooklyn State Hospital, some two years ago. This course was supplemented by a somewhat similar one on the Application of

Design, given by the chief occupational therapist, Miss Susan Wilson.

Another notable example was the course in Design, given by a leading specialist, which was arranged (and paid for) jointly by the occupational therapists at the King's Park and Central Islip State Hospitals. Under the same auspices, a special course in physical training was also arranged, and was given by a member of the staff of New York University.

It was very gratifying to learn from those immediately concerned that these several courses proved to be well worth while for those who took them.

In this connection, mention must be made of the well-proved value of the periodical staff conferences which are a notable feature of the New York State Hospitals and related institutions. While an outside speaker is, I believe, occasionally brought in for these conferences, the opportunities which they afford for mutual help through the presentation and discussion of the many matters which come up for consideration are noteworthy.

One other means of refreshment must be mentioned; namely, books and periodical literature. Mention has already been made of the value of the official organ of one's own profession, but occupational therapists should make it a practice to read other medical journals; also the magazines which deal with practical arts, recreation, etc. In many hospitals, a variety of periodical literature is to be found in the staff library, but where this is not the case a group of workers can each subscribe to some particular journal or magazine, and pass it round in turn to each individual composing the group.

Text books on occupational therapy and related activities are not very numerous, but as in other professional fields, text books are indispensable aids for the occupational therapist.

I must deal now, as briefly as possible, with the underlying reasons why workers in this broad and increasingly important field of curative occupations should obtain this refreshment for their minds, spirits and energies by some, or each, of the means which I have endeavored to suggest and describe.

In the first place, it is, as our grandfathers would have put it, the "bounden duty" of every person who is engaged in the sacred work

of aiding in the care and treatment of human beings disabled by illness, or other disability, to spare no effort to attain and maintain in herself, or himself, the highest possible standard of efficiency.

While an occupational therapist may not be required, as physicians are, to take a solemn oath at the outset of her, or his, life's work; (although at least one of our training schools requires its students to repeat a solemn "Vow and pledge" upon graduation) the occupational therapist, as a worker with patients suffering from the various ills of humanity, must have a definite realization of her, or his, "vocation". By this I mean, of course, in the sense in which the church uses the term vocation; that is, a divine call to an occupation; whether it be ministering to spiritual or bodily needs.

Occupational therapy, faithfully carried out, is surely a "vocation" in that sense; and it goes without saying that it calls for the very best that is in the worker's ability to give.

From the personal, or selfish, point of view, it is equally advisable for the occupational therapist to seek and seize every opportunity for self-improvement; if professional advancement is desired.

In the medical field, this principle is well recognized by hospital authorities and other organizations. Many times have I heard, when a candidate for an important medical position was being considered, some such questions as, "Does he attend and take an interest in the meetings of his County and State Medical Societies? Does he read papers or contribute to the professional journals?"

In other words, "Is he keeping abreast of new ideas and methods, or has he settled down into a rut of routine, perfunctory work?"

In the case of occupational therapists, I have myself been asked very pertinent questions by hospital and other authorities as to what a candidate does to keep up to date and in touch with new methods. In that connection, I have found it to be of considerable value to speak of her, or his, activities in connection with the national or local professional organizations, etc.

Lest I should be misunderstood, however, please let me say that I do not, for one moment, mean to suggest that you should take an interest in your own professional organizations, or in any of the other means of improving your professional ability of which I have

spoken, for the purpose of self-advertisement; which is a thing abhorrent to all decent, self-respecting professional workers.

I am convinced, however, that alike for the best interests of the work itself, and of the patients to whom you are devoting your lives, and also for your own professional advancement, it should be your constant effort to improve your skill, to refresh your hearts, and to renew your faith in the value of curative occupations and related activities by every legitimate means in your power. Only in that way can our very human tendency to be satisfied, after a time, with our past acquirements and a routine performance of our duties, be overcome; and our work and ourselves grow in value.

THE NEED OF SHELTERED WORK SHOPS IN THE COMMUNITY REHABILITATION OF MENTAL PATIENTS*

BY HARRY A. STECKEL, M. D.,
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Occupation as a therapeutic measure in the treatment of mental disorders is by no means a new idea. Pinel in France, as early as 1791, recognized the value of simple tasks as a curative factor in the management of the insane. In our own country, Rush of Pennsylvania more than one hundred years ago was an ardent advocate of the "work-cure" for mentally disordered individuals.

Perhaps the World War failed to "make the world safe for democracy", but the reconstruction period since that great conflict has undoubtedly been pregnant with, and has been responsible for, innumerable indirect benefits to mankind. Notably among these benefits may be mentioned the rapid strides which have been made in psychiatry. A better understanding of the psychogenetics of mental disorder has afforded us new light in the matter of treatment, and one of our most potent weapons of attack has proven to be occupational therapy.

Not the crude therapy of Pinel, and Reil and Rush, but a well organized, carefully graded and scientifically applied routine of work, exercise and amusement, whose whole aim has been to re-establish in the patient the continuity of activities and interest which was broken by his mental collapse and entry into the hospital. For this new order of things we must thank the World War, for without a doubt it was from the lessons learned as a result of the rehabilitation through occupational therapy of thousands upon thousands of physical and mental wrecks returning from the fields of battle, that our insight into the possibilities within our reach has come.

As one reviews in retrospect the phenomenal growth of occupational therapy during the past ten years, and sees the almost miraculous change in the whole atmosphere of our institutions, which has developed as a result largely of that growth, one cannot help but become imbued with a spirit of hopefulness for the future and

* Address at Institute of Chief Occupational Therapists, New York City, February 25, 1929.

inspired with a desire to cooperate to the utmost in this worthwhile program.

Occupational therapy has proven its worth beyond question. It was met with much resistance on the part of the skeptical, and much energy had to be expended by its advocates to have it properly accepted. Those days are past, however, and it seems to me our energies should now be expended on a program of expansion.

Work within the hospitals is coming along well, and is growing naturally, so that now there will be opportunity to reach out into the field.

I am thinking, as the title of my paper suggests, of extramural work shops for such of our patients, who are sufficiently well to live outside the hospital, yet, who are not in condition to be absorbed into industry.

The importance of occupational therapy with these cases has been recognized for some time, but the best and most effective manner of approach to the problem has not, to my knowledge, been completely worked out, at least so far as mental cases are concerned.

The need for such a center in the community, where the partially rehabilitated patient, not yet able to return to a full time job, but in a position to enjoy the liberties and comforts of life in his own home, could receive daily instruction and inspiration, under the supervision of a trained occupational therapist, first came to my attention nearly ten years ago. I was at that time in charge of the social service department of the Kings Park State Hospital. We had, by intensive effort, greatly increased our number of patients on parole, until nearly nine hundred were under our supervision outside the hospital, some in their own homes, others with friends, some employed, others idle, or at least occasionally so. It was our experience that idleness in our parole patients, was usually followed by a recrudescence of psychotic symptoms, and eventual return to the hospital. When a patient is left to sit idly at home, even for a few days, he occupies the greatest amount of his time in introspection, phantasy, and indirect experience, and often the effort of months and months of redirection of energy in the performance of various tasks at the hands of an earnest occupational therapist is lost almost over night. If only some plan could be evolved, whereby

such idle parole patients might have occupational therapy continued in the home, was our first thought.

This was not feasible in the majority of cases, for such a measure would require a large corps of visiting occupational therapy aides, and even then it would be only an occasional visit with long intervals when the patient would not have the advantage of the tactful, yet firm encouragement and stimulation, such as only a well trained aide can give.

If a centrally located and easily accessible work shop could be established, to which otherwise idle or the occasionally idle patient could come each day, this obstacle of idleness could be surmounted. Here too, was rather an expensive idea with which probably the State at that time would not undertake to experiment.

We had at about this same time, through the efforts of Dr. Garvin, who was then superintendent at Kings Park, a large corps of occupational therapists assigned to the hospital, and maintained by the U. S. Veterans' Bureau for work with the World War Veterans, of which there were several hundred in the hospital. At one time nearly one hundred of our parole patients were Veterans' Bureau charges, and many of these belonged to the idle class, to which we have previously referred.

Dr. Garvin, with the consent of Dr. Haviland, then chairman of the New York State Hospital Commission, after formulating his carefully thought-out plans for the center, submitted them to the authorities at Washington, who looked with favor upon them, and a center was about to be established in Brooklyn, when unfortunately a sudden change in the administrative heads of the Veterans' Bureau resulted in a complete and permanent relinquishment of the project.

It is my firm belief that if Dr. Garvin's plans had gone through at that time, as the result of the experiment, which I am satisfied would have worked out beneficially, both for the patients and the hospital, we would now have a number of such centers operating under the State Department of Mental Hygiene. But this is past history, and what we are interested in is the future.

In the light of my experience of nearly ten years of rather intimate contact with out-patient and parole work with mental patients, I am convinced that a large field for accomplishment is open to us

in this matter of an occupational therapy center in the community to function as a halfway station for our patients between the hospital and industry proper.

We are doing a comparatively wonderful job in the hospitals with our well-graded groups, beginning with habit-training and ward classes up through the occupational training centers, and the pre-industrial shops. Such graduated training theoretically raises the patient to that mental, physical and social level which he must maintain in his contact with industrial life. The gap, however, between the pre-industrial shop, and industry in the community is a wide one, and beset with many dangers. Seldom is a patient sufficiently hardened to meet the sudden changes of environment from the sheltered atmosphere of the hospital to the stress and strain of community life and industrial competition.

It is often difficult to obtain immediate employment for our patients, either in a former or a new job. A few days of idleness often spell defeat. The community work shop should provide the bridge for this perilous gap over which our patients might safely travel. It seems to me that such a bridge is essential, and its need quite evident, in view of the fact that our chief problem is one of reëducation, and psychologically, reëducation follows the same process as normal education, namely gradual growth through progressive development, the ultimate goal being industrial rehabilitation.

It means very often in cases where the former type of employment seems to be an etiological factor in the precipitation of the psychosis, a reëducation into an entirely new occupation. The necessity very often for such a change of employment cannot be too much stressed. Too frequently we find our mentally disabled repeatedly making the cycle of treatment, parole, discharge, employment, breakdown and re-hospitalization, and repeated experience of this kind reduces their morale, until finally permanent hospitalization becomes obligatory.

For such patients, I believe a community work-shop would prove a help and stimulation, the real value of which can scarcely be imagined.

For some time there has been under discussion, by the Department of Mental Hygiene, the advisability of establishing halfway houses, in the larger communities of the State, where patients who

have no homes to which to go might find a sheltered environment, from which they could be employed from day to day. This experiment has been carried out to a considerable extent with mental defectives, by Dr. Bernstein of Rome. It has not, so far as I know, been utilized in the handling of psychotic cases. I see no reason why some part of the building in which our suggested occupational therapy centers were located, might not be utilized for such a purpose, the center thus serving in a dual capacity.

There are many possibilities for utilization of this center in various other advantageous ways. It is quite easy to conceive of such a center serving, through the occupational therapy lay-out, as a means of partial support for patients in the community, who are unable to obtain other employment.

This institution could be used as a sales center for the disposal of the projects manufactured in the shop, and might readily become almost self-supporting.

In brief then, such a sheltered work shop would provide the essential first step in rehabilitation, from the time when the patient leaves the hospital until he is able to take up a full-time job, or until the desirability of further assistance on the part of the hospital has been established, and permanent employment in the center worked out for the patient, thereby still allowing him to remain at home and be at least partially self-supporting.

I realize that my presentation of this subject is rather sketchy, and that I have made no attempt to work out a possible plan of procedure in establishing such a center. Such a plan would necessarily need to be formulated by such experts in occupational therapy as Mrs. Slagle and Miss Robeson, in whom I have absolute confidence, and I am certain that should they be permitted to work out such a scheme, within a very short period, we would see a very definite increase in the number of patients whom we would be able to parole from the hospital to the larger cities of the State, which patients otherwise would of necessity be permanent hospital cases.

I sincerely trust that this rather amateurish presentation of this subject, for I recognize my own limitations, may act as a stimulus to others to think this matter out in a more definite way, and hope that such thought, on the part of others, may be the means of putting into effect several experiments along these lines.

MANUAL TRAINING OF LOW GRADE DEFECTIVES*

BY GEORGE J. VEITH, M. D.,

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For convenience let us divide the subnormal children with whom we deal in State schools into the borderline, moron, imbecile and idiot groups. On the basis of normal intelligence equalling 90 to 100 per cent—the idiot scale of intelligence runs from 0 to 20 per cent, the imbecile from 20 to 50 per cent, the moron from 50 to 70 per cent and the borderline from 70 to 80 per cent. It is the last two groups, from our experience, that we expect might be taught the habit of work and social adjustment so that they may return to the community and become useful citizens. The other two groups are generally institutional types and usually remain with us. The first two types, unless complicated with a psychosis, epilepsy, encephalitis, marked personality defects or extreme physical handicap, are, on admission, sent to school where they receive all the scholastic work possible. Other than scholastic work, depending upon their mental age, they are trained in Seguin class, kindergarten, music (both vocal and instrumental) domestic science, sewing and hand-work of all kinds until they have reached the age of sixteen years, and then they are placed in the various industries where they are taught the habit of work so that they may be more able to compete with their fellow citizens.

After 16 years of age the girls are trained in cleaning, scrubbing, washing, ironing, mending and sewing of various kinds; bed making, service building work which includes cleaning and preparing of vegetables, washing of dishes, waiting on table and cooking. The boys, after they have become 16 years of age, do housework, service building work, farm work, road building, ditch digging, cutting of wood, team driving, dairy work, laboring of all kinds, and help the various mechanics about the place.

The last two groups can be taught many things and may become institutional citizens. In the training of low grade types, there are a few basic principles which are necessary to keep in mind before one can become successful. The same principles, I think, can be applied to the deteriorated patients in your State hospitals.

* Read at Annual Institute of Chief Occupational Therapists, February, 26, 1929.

You will all agree, I am sure, that it is the busy child who is the happy one. This may be verified at any time with any type—even the feeble-minded. Therefore, to lead them to do things is the greatest possible kindness. Right and better habits are essential to their happiness. An effective attitude of work, plus a cheerful co-operation on the part of the child—*adaptability—leadership—response* and *reaction*, all work together for efficiency and the unquestionable satisfaction of those who heretofore had no way of showing the world that they, too, are an active part of it.

A great obligation rests upon our schools and teachers, whose chief duty is to give such efficient training to the children, under their care, that the latter might acquire right and better habits. Habit formation depends primarily upon repetition with attention. No amount of repeating will insure success unless the individual, engaged in the process of repetition, is attending to the work in hand. Usually people think defective children are capable of beginning their training by taking hold of a problem or project, but, better progress is made when one step at a time is taken, and each step by much repetition is fixed in the mind of the child. Improved muscular co-ordination and care in handling of the materials to be used, must precede any attempt to undertake a problem. Thus confusion in the mind of the learner is prevented. By the teacher's careful consideration of the inability of children of low mentality to grasp more than one idea at a time, blunders through loss of confidence on the part of the child may be avoided. Good results bring encouragement and prove to be an incentive—for the subnormal child is very human.

An accumulation of knowledge is not what we are striving for. Worthy use of time and the habit of work and drill is more important, therefore, a training in continuity of application as well as carefulness is necessary. All work must be made especially interesting, for we must not forget that co-operative efforts always follow interest. Naturally, because of their imitative abilities, this type of child follows directions easily. Then when they have imitated, they fix as a habit. We know that the attention of even a normal child cannot be held on the same object for more than a few seconds, and that the mind wanders easily. This is due, of course, to poverty of mental content. If this be true of a normal person

how much more effort, on the part of the teacher, must necessarily be put forth in teaching the subnormal person the value of habitual attending. In the training of the lower grades, particularly low-grade imbeciles and high-grade idiots, they fail in the beginning to make any attempt to watch or to follow directions and even, when finally persuaded to respond they are most awkward. I am sure those of you who saw the low-grade industrial class will agree that they have overcome to a marked degree, some of that awkwardness and as a result of training have developed co-ordination and better muscular control. These habits are but the result of constant drill and faithful training. Means have to be taken, however, to help these children "learn" to attend. The only way we have found to take any effect has been by explaining to them and using illustrations that they understand and are interested in. When the special difficulties of children have been discovered, very often remarkable results can be obtained by a change in the method. It is absolutely essential to get down to their world and it is a great mistake to think that you are presenting ideas which are impossible to be understood. We find them anxious to help one another to learn to do things. One corrects the other carefully, without offense, showing great pleasure in making things possible. It is my custom, when low-grade children have accomplished something, to have them teach those who do not know. They seem to be able to get down to the other's world and can more easily impart knowledge, for they speak the same language, as it were.

Much rug-making is done in which a combination of colors and the laying of borders are necessary. Undoubtedly some thinking is required to do this but the instruction to insure best results, must be adapted to the mental ability of the child, and the institution must get down to the level and become an actual part of that child's world. A very essential feature in the working of a school should be to adapt the curriculum or the experience to be communicated to the child, to their needs and life interests, and to furnish such a stimulus to the child so as to develop attitude of work and "controls" so to speak in their daily life.

The mentality of the idiot is so simple that one seems to be baffled by the thought of developing an attitude of work. However, experience with our special class has proved that it is possible to

obtain most important results in this line by giving training that involves repeated urgings and automatic response. Many difficulties are overcome by making provisions for their inexperience. Naturally, the successful administration of this work rests with the individual teacher. The teacher who establishes a bond of fellowship between himself and the children, plus a spirit which combines patience and firmness, has done much to stimulate response and to save himself much futile effort. Four years ago, when the low-grade industrial class was started, we found a certain child incapable of adjusting her thinking to new requirements. For instance, in making of Persian Oriental rugs, her stitches were perfect under supervision, but when left quite by herself she was confused and non-plused. She dropped the new work and begged to return to the old, for fear seemed to take possession of her. Today, however, after all her training and development in industrial work, she can work independently. In the making of rugs it is a great pleasure for her to carry on her own work as well as to assist other children, especially in the selection of colors. One little child has to be checked constantly for showing her classmates where to fill in color and what color to use; another child watches all the rugs and the children near her, reporting any wasting of yarn, or any idleness. Several give out thread or leave their work to look after another. Some children take every possible opportunity to oversee the weaving, thus proving that they are equal to the development of adaptability and leadership.

In conclusion, I wish to remind you that the idiot and imbecile lack constructive imagination to a very large degree. They are capable of making only a few associations of the most simple nature and those resulting from identical experiences. Thus, their training involves not only laborious but continuous effort in taking them away from their world of inferiority and giving them greater contact with the outside world.

A STATISTICAL REVIEW OF OCCUPATIONAL THERAPY IN THE NEW YORK CIVIL STATE HOSPITALS

BY BENJAMIN MALZBERG,
ASSISTANT DIRECTOR, STATISTICAL BUREAU, NEW YORK STATE DEPARTMENT OF
MENTAL HYGIENE

More than a century ago that great pioneer in the field of the care of the mentally ill, Philippe Pinel, wrote as follows: "The fundamental basis of the conduct of a hospital for the insane must be the law of work, rigorously enforced, for very few insane, even in a state of fury, should be deprived of all active occupation—and what an afflicting spectacle it is to see. . . . all types of insane either in a continual and vain mobility agitating themselves with no end in view, or else sadly plunged into inertia and stupidity."¹

A great American contemporary of Pinel's, Dr. Benjamin Rush, also perceived the importance of occupational therapy at about the same time. In a letter to the managers of the Pennsylvania Hospital, dated April 30, 1798, he enumerated the types of employment suited to certain groups of deranged people.² Some years later he wrote as follows:

"The advantages of labor have been evinced in foreign hospitals as well as our own, in a greater number of recoveries taking place among that class of people who are employed in the ordinary work of the hospital than in persons elevated by their rank in life above the obligations of labor."³ Further observations of the utility of occupation in psychiatric technique were pointed out by Dr. Charles W. Pilgrim, who at a conference of the State hospital superintendents and representatives held September 10, 1907, read many interesting references to the early history of the hospitals at Utica, Worcester and Frankford, Pa. Mr. Goodwin Brown, an early member of the State Commission in Lunacy suggested that the patients be taught useful arts not so much for the value of their labor as for the sake of keeping them busy.

Despite the excellence of such precepts and the great authority of their proponents, many years had to pass before serious effort was made to induce mental and physical improvement through occupational therapy. Gradually, however, the idea took shape and was

transformed into action. In May, 1912, two important articles appeared in the *STATE HOSPITAL BULLETIN*. One by Dr. Richard H. Hutchings set forth the work then being done at the St. Lawrence State Hospital. The other, by Dr. C. Floyd Haviland, discussed the system in use at the Kings Park State Hospital. Here "through Dr. Haviland's efforts a fairly well organized occupational therapy department was functioning. . . . Those in charge of the work were enthusiastic and although they lacked experience and training, they succeeded in carrying it on so that it reflected great credit upon the hospital. Under Dr. Haviland's leadership the work became an inspiration to many other hospitals throughout the country." At about the same time an important experiment was being conducted at the Rochester State Hospital by Dr. Charles T. LaMoure. The subjects were female patients of the *præcox* class, who through the application of habit-training were roused from deteriorated states. His work, it is stated, achieved national renown.

It was not, however, until 1922 that occupational therapy under the leadership of Mrs. Eleanor Clarke Slagle took its place in the new program under which every effort, medical and pedagogical, was to be made to restore the patient to a condition of mental and physical health. The system of occupational therapy then inaugurated has since been expanded until it reaches every State hospital, and ministers to many thousands of the patients.

In 1922 statistical forms were prepared, laying the foundation for a systematic annual survey of the outcome of treatment in the occupational therapy departments. At that time both the pedagogical methods in vogue and the statistical forms were largely experimental. Experience naturally had to be the guide in the choice of therapists, of curricula and of statistical schedules. Consequently the records from 1923 to 1928 are not as uniform as good statistical practice requires. Nevertheless it is possible to indicate in a broad way the growth of occupational therapy during this period. A more detailed study is possible for the years 1926-1928 inclusive, for which period we have individual schedules with standardized data relating to each patient cared for in the occupational therapy departments.

The following table shows the number of patients in the occupational therapy classes at the close of each fiscal year.

TABLE I. PATIENTS IN THE OCCUPATIONAL THERAPY DEPARTMENTS OF THE NEW YORK CIVIL STATE HOSPITALS AT THE CLOSE OF THE FISCAL YEARS, 1923-1928, INCLUSIVE

Date	Number in Occupational therapy departments			Number in occupational therapy departments per 100 patients in the State hospitals		
	Males	Females	Total	Males	Females	Total
June 30, 1923.....	*	*	5340	*	*	16.2
June 30, 1924.....	*	*	7339	*	*	18.8
June 30, 1925.....	*	*	9848	*	*	24.4
June 30, 1926.....	5146	6923	12069	26.4	31.7	29.2
June 30, 1927.....	5134	7839	12973	25.3	34.8	30.3
June 30, 1928.....	5673	7372	13045	26.9	31.5	29.3

*Data not available.

A steady increase is apparent from a total of 5,340 on June 30, 1923, to 13,045 on June 30, 1928. Beginning with 1926 we have data for each sex from which it is evident that the females in occupational therapy classes greatly outnumber the males. These statistics include patients in occupational classes and those who were receiving physical training only. The latter group was not differentiated from the other in the statistical reports until 1927. In that year, out of a total of 12,973 in the occupational therapy departments on June 30, 6,161 were receiving physical training only, leaving a total of 6,812 receiving treatment in definite occupations. Similarly, on June 30, 1928, 7,079 of the 13,045 patients reported in this department were receiving other than physical training. If we exclude those in the physical training classes only, we find a still higher ratio of females to males. In 1927, 4,714 of the 6,812 patients, or 69.2 per cent, were females, in 1928, 65.8 per cent of the 7,079 patients were females. A better statistical measure of the extent of occupational therapy is the ratio of patients receiving such treatment to the total number of patients in the State hospitals on June 30. On this basis, the ratio rose steadily from 16.2 per 100 in 1923 to 30.3 per 100 in 1927. There was a slight reduction in the following year to 29.3 per 100. Since 1926, the ratio has varied but little. This is equally true of

the ratios for each sex. On such basis, however, we notice that the ratio for females is still higher but that the excess is much less than before.

Beginning with 1926, we have data showing the total number of patients receiving occupational therapy (exclusive of those in the physical training classes only). These are shown in detail in Table II.

TABLE II. PATIENTS TREATED IN OCCUPATIONAL THERAPY DEPARTMENT OF THE NEW YORK CIVIL STATE HOSPITALS, FISCAL YEARS ENDED JUNE 30, 1926, 1927 AND 1928*

STATE HOSPITALS	1926			1927			1928		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Binghamton.....	241	360	601	227	427	654	308	399	707
Brooklyn.....	370	459	829	398	515	913	358	682	1040
Buffalo.....	89	380	469	133	446	579	146	486	632
Central Islip.....	320	901	1221	434	960	1394	598	972	1570
Creedmoor.....	.....	.....	.....	93	150	243	121	181	302
Gowanda.....	90	140	230	182	192	374	192	184	376
Harlem Valley.....	95	72	167	135	108	243	135	202	337
Hudson River.....	106	191	297	110	578	688	119	584	703
Kings Park.....	835	1145	1980	652	968	1620	902	1223	2125
Manhattan.....	420	643	1063	425	741	1166	514	836	1350
Marcy.....	86	237	323	119	281	400	107	366	473
Middletown.....	58	276	334	43	72	115	18	67	85
Rochester.....	28	229	257	119	375	494	17	238	255
St. Lawrence.....	36	252	288	37	299	336	35	283	318
Utica.....	43	345	388	132	330	462	244	201	445
Willard.....	.....	237	237	.....	281	281	.....	306	306
Total.....	2817	5867	8684	3239	6723	9962	3814	7210	11024

* Does not include patients receiving physical training only.

There is a marked increase from a total of 8,684 in 1926, to 9,962 in 1927, and then to 11,024 in 1928. The increases are reflected in each sex. On the yearly basis the females again outnumbered the males by more than 2 to 1 in the first two years, and by almost the same amount in 1928. As concerns the absolute number of patients, the metropolitan hospitals far outnumber the others. In 1928, 6,387 of the 11,024 patients, or 57.9 per cent, were treated in the occupational classes of the metropolitan hospitals.

A more accurate picture may be obtained by relating the patients who received occupational therapy to the total patients under care in the hospitals. The results are shown in Table III. It is apparent

from this table that there are differences in the degree in which the various hospitals utilize occupational therapy. In 1928, for exam-

TABLE III. NUMBER RECEIVING TREATMENT IN OCCUPATIONAL THERAPY DEPARTMENTS OF THE NEW YORK CIVIL STATE HOSPITALS, PER 100 PATIENTS UNDER CARE, FISCAL YEARS ENDED JUNE 30, 1926, 1927 AND 1928

STATE HOSPITALS	1926			1927			1928		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Binghamton.....	13.4	24.6	18.4	12.1	29.1	19.1	16.6	27.0	21.2
Brooklyn.....	29.1	26.7	27.7	28.6	29.1	28.9	24.5	35.7	30.9
Buffalo.....	6.1	24.2	15.5	9.1	28.7	19.2	9.7	30.8	20.5
Central Islip.....	8.0	27.1	16.7	10.3	26.6	17.9	13.0	24.8	18.4
Creedmoor.....	.....	.....	.....	21.1	33.0	27.2	20.6	30.4	25.5
Gowanda.....	9.5	20.1	13.9	18.9	27.3	22.4	19.2	24.9	21.6
Harlem Valley.....	44.6	67.9	52.4	42.3	45.4	43.6	30.1	54.3	41.0
Hudson River.....	4.8	7.2	6.1	4.9	21.6	14.0	5.2	21.2	14.0
Kings Park.....	27.2	34.1	30.8	22.0	28.6	25.5	27.1	35.7	31.5
Manhattan.....	10.0	12.4	11.4	10.2	14.7	12.7	11.6	16.4	14.2
Marey.....	20.0	49.1	35.4	26.2	56.0	41.8	24.2	68.4	48.4
Middletown.....	3.8	15.6	10.1	2.7	4.1	3.4	1.1	3.7	2.5
Rochester.....	2.6	17.3	10.7	11.3	27.7	20.5	1.5	17.5	10.4
St. Lawrence.....	2.9	17.8	10.8	3.0	20.7	12.5	2.6	19.3	11.3
Utica.....	3.7	27.8	16.2	10.9	25.8	18.6	19.9	15.3	17.5
Willard.....	.....	15.1	7.8	.....	17.8	9.2	.....	19.4	10.0
Total.....	11.1	21.2	16.4	12.3	23.9	18.3	13.7	24.6	19.3

ple, 19.3 per cent of all the patients cared for in the State hospitals received treatment in occupational therapy. These rates varied from a minimum of 2.5 per cent at Middletown to a maximum of 48.4 per cent at Marey. Among the hospitals with high rates were Brooklyn, 30.9; Creedmoor, 25.5; Harlem Valley, 41.0, and Kings Park, 31.5. Those with low rates included Hudson River, 14.0 Manhattan, 14.2; Rochester, 10.4 St. Lawrence, 11.3, and Willard, 10.0. As already noted the female patients in the occupational therapy division greatly outnumber the males. A better comparison is therefore made by relating the occupational therapy group to the total hospital population of the same sex. On this basis, we find that 13.7 per cent of the males received occupational therapy in 1928, contrasted with 24.6 per cent of the females. This shows conclusively that there is a definite tendency to favor females in the selection of patients for occupational therapy. Since 1926, there has been one exception. At Brooklyn State Hospital 29.1 per cent

of the males and only 26.7 per cent of the females were given occupational therapy in 1926.

In the entire State hospital system there was a steady increase during the past three years in the use of occupational therapy. This has already been indicated in absolute numbers, but it is equally true relatively. The per cent of patients under treatment increased from 16.4 in 1926 to 19.3 in 1928. There were similar increases for each sex. Most of the hospitals, especially the larger ones, showed similar trends. Harlem Valley, however, showed a decrease from 52.4 per cent to 41.0; Middletown showed a reduction from 10.1 to 2.5 per cent; Rochester increased from 10.7 per cent in 1926 to 20.5 in 1927, but fell back again to 10.4 in 1928.

Let us now examine the patients in the occupational therapy departments according to their psychoses.

TABLE IV. DIAGNOSES OF ADMISSIONS TO OCCUPATIONAL THERAPY DEPARTMENTS OF THE NEW YORK CIVIL STATE HOSPITALS, FISCAL YEARS ENDED JUNE 30, 1926, 1927 AND 1928

Psychoses	1926			1927			1928		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Traumatic	14	3	17	26	.....	26	27	7	34
Senile	28	150	178	32	156	188	43	187	230
With cerebral arteriosclerosis.....	69	102	171	79	142	221	95	164	259
General paralysis	115	133	248	186	117	303	252	142	394
With cerebral syphilis	12	13	25	16	15	31	14	23	37
With Huntington's chorea	2	3	5	4	5	9	1	2	3
With brain tumor	1	1	2	.....	1	1	1	2	3
With other brain or nervous diseases	71	65	136	69	74	143	85	77	162
Alcoholic	109	66	175	148	99	247	161	91	252
Due to drugs and other exogenous toxins	4	7	11	5	10	15	3	14	17
With other somatic diseases.....	6	42	48	8	34	42	11	42	53
Manic-depressive	265	1061	1326	310	1334	1644	373	1471	1844
Involution melancholia	29	233	262	40	269	309	55	295	350
Dementia præcox.....	1782	3304	5086	1959	3617	5576	2257	3810	6067
Paranoia or paranoic conditions...	35	128	163	53	139	192	48	137	185
Epileptic psychoses	77	94	171	75	99	174	84	104	188
Psychoneuroses and neuroses.....	25	70	95	27	89	116	56	115	171
With psychopathic personality....	43	95	138	65	110	175	75	133	208
With mental deficiency.....	82	203	285	87	265	352	105	255	360
Undiagnosed psychoses	41	90	131	45	143	188	55	120	184
Without psychosis	7	4	11	5	5	10	13	10	23
Total	2817	5867	8684	3239	6723	9962	3814	7210	11024

Table IV shows that more than half of the 11,024 patients receiving occupational therapy, namely, 55.0 per cent, suffered from dementia præcox. If to these we add the manic-depressive group, we have a total of 7,911 patients, or 71.8 per cent of the entire group. The remaining 28.2 per cent were well distributed among the other psychoses, the largest being general paralysis, involution melancholia, and psychoses with mental deficiency. Similar results are seen in the other years. It is necessary to reduce these totals to a relative basis in order to see the correct trend. In Table V

TABLE V. NUMBER RECEIVING TREATMENT IN OCCUPATIONAL THERAPY DEPARTMENTS OF THE NEW YORK CIVIL STATE HOSPITALS FOR DIAGNOSED CONDITION PER 100 PATIENTS UNDER CARE, FISCAL YEARS ENDED
JUNE 30, 1926, 1927 AND 1928

Psychoses	1926			1927			1928		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Traumatic	12.1	11.5	12.0	18.8	.....	15.7	17.1	18.9	17.4
Senile	3.5	11.0	8.2	3.9	11.6	8.7	4.8	12.9	9.8
With cerebral arteriosclerosis.....	6.4	11.2	8.6	6.3	13.9	9.7	6.7	14.4	10.8
General paralysis	6.2	22.7	10.1	9.6	19.1	11.9	12.1	21.4	14.4
With cerebral syphilis	7.5	14.9	10.2	9.9	14.7	11.8	8.1	20.2	12.0
With Huntington's chorea	6.5	11.1	8.6	12.9	17.9	15.3	3.3	10.0	6.0
With brain tumor	5.3	5.9	5.6	.....	4.0	2.3	5.0	9.5	7.3
With other brain or nervous diseases	35.1	38.5	36.7	29.9	37.8	33.5	32.0	37.4	34.3
Alcoholic	7.0	12.2	8.3	8.7	18.2	11.0	9.0	17.4	10.9
Due to drugs and other exogenous toxins	11.1	16.7	14.1	15.6	21.3	19.0	7.5	29.8	19.5
With other somatic diseases.....	4.7	16.9	12.7	5.8	13.5	10.8	7.9	16.9	13.7
Manic-depressive	12.6	26.1	21.5	14.5	31.8	26.0	16.1	32.9	27.1
Involution melancholia	8.7	25.5	21.0	11.8	28.6	24.2	14.9	30.2	26.0
Dementia præcox.....	13.0	22.5	17.9	13.9	24.1	19.2	15.6	24.6	20.2
Paranoia or paranoic conditions...	6.0	12.2	9.9	9.1	14.9	12.7	8.4	14.7	12.3
Epileptic psychoses	11.6	14.5	13.0	11.1	15.6	13.3	11.8	16.5	14.0
Psychoneuroses and neuroses.....	15.0	27.2	22.4	15.1	33.0	25.8	25.8	40.2	34.0
With psychopathic personality....	10.9	21.0	16.3	17.0	23.9	20.8	18.1	27.7	23.2
With mental deficiency.....	9.7	21.1	15.8	10.4	27.5	19.5	11.9	25.0	18.9
Undiagnosed psychoses	7.5	18.1	12.5	8.4	29.7	18.5	10.4	28.2	18.7
Without psychosis	10.3	12.9	11.1	6.8	20.0	10.1	17.3	23.3	19.5
Total	11.1	21.2	16.4	12.3	23.9	18.3	13.7	24.6	19.3

the numbers represent the rate per 100 patients in each group of psychoses in the State hospital. As previously noted, 19.3 per cent of the patients were receiving treatment in occupational therapy in 1928. This rate was exceeded in the following psychoses: Manic-

depressive, 27.1; involution melancholia, 26.0; dementia præcox, 20.2; psychoses with other brain or nervous diseases, 34.3. Psychoses with low representations were: Senile, 9.8; cerebral arteriosclerosis, 10.2; general paralysis, 14.4; alcoholic, 10.9; paranoia, 12.3. The average rate for males was 13.7 per cent. This was exceeded as follows: Traumatic, 17.1; psychoses with other brain or nervous diseases, 32.0; manic-depressive, 16.1; involution melancholia, 14.9; dementia præcox, 15.6; psychoneuroses and neuroses, 25.8, and psychopathic personality, 18.1. Low rates were found in the senile group, 4.8; cerebral arteriosclerosis, 6.7; alcoholic, 9.0; paranoia, 8.4. Among the females the average rate was 24.6. This was exceeded principally as follows: Manic-depressive, 32.9; involution melancholia, 30.2; dementia præcox, 24.6. The following showed low rates: Senile, 12.9; cerebral arteriosclerosis, 14.4; alcoholic, 17.4; epileptic, 16.5. The same general order is found in the earlier years. Again, as in the case of the individual hospitals, there is a general increase from year to year in the proportion of patients in the different psychoses receiving occupational therapy. In some of the smaller groups, such as psychoses with brain tumor, there is necessarily an irregular fluctuation from year to year, but the larger groups of psychoses, such as dementia præcox, and the manic-depressive psychoses show a well-marked rising trend.

The measure of the value of occupational therapy, however, is not to be found in the increased number of patients, but in the outcome of such therapy. Table VI shows the reported condition of patients on discharge from treatment or at the end of the fiscal year per 100 under treatment in occupational therapy classes during the fiscal years ended June 30, 1926, 1927 and 1928. On the whole, there is a fair degree of uniformity in the results from year to year. In 1926, 2 per cent of the patients treated were described as "recovered"; this ratio increased to 2.2 in 1927 and 2.4 in 1928. In 1926, 47.5 per cent of the patients were reported "improved"; this grew to 49.0 per cent in 1927, but fell back to 46.3 in 1928. The "unimproved" group comprised 46.9 per cent in 1926, 46.1 per cent in 1927 and 49.0 in 1928. The deaths totaled 1.6 per cent in 1926, 1.0 per cent in 1927, and 1.4 per cent in 1928. On the whole, therefore, we see an improvement in the reported condition of about 50 per cent of the patients following treatment in occupational therapy.

TABLE VI. REPORTED CONDITION OF PATIENTS AFTER TREATMENT IN OCCUPATIONAL THERAPY DEPARTMENTS OF THE NEW YORK CIVIL STATE HOSPITALS, PER 100 UNDER TREATMENT, FOR FISCAL YEARS ENDED JUNE 30, 1926, 1927 AND 1928

YEAR	Of every 100 under treatment														
	Recovered			Improved			Unimproved			Died			Unreported		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
1926.....	2.2	1.9	2.0	45.3	48.7	47.5	49.7	45.6	46.9	1.4	1.6	1.6	1.4	2.2	2.0
1927.....	1.9	2.3	2.2	46.8	50.0	49.0	49.2	44.6	46.1	0.9	1.1	1.0	1.2	2.0	1.7
1928.....	2.6	2.4	2.4	47.5	45.6	46.3	47.8	49.7	49.0	1.0	1.6	1.4	1.1	0.7	0.9

In Table VII the reported condition of the patients is shown for each of the State hospitals. In order to remove some of the personal element that may introduce bias into the classification of condition, the classes "recovered" and "improved" have been combined; the remaining classes have been combined similarly into a single category. In 1927, 51.2 per cent of the patients treated were reported as recovered or improved. In 1928, the per cent was 48.7. Little significance need be attached to this difference, as it can be easily accounted for by random fluctuations. We do find marked variations, however, from hospital to hospital. Thus, in 1928, the average recovery and improvement rate of patients treated was 48.7 per cent. The maximum was 80.0 per cent, reported by Utica, and the minimum was 20.5, reported by Hudson River. Among the institutions with high rates were Buffalo, 59.7; Central Islip, 71.7; Harlem Valley, 50.4, and Marcy, 57.3. Low rates were reported by Binghamton, 39.2; Gowanda, 39.6; Kings Park, 39.2; Manhattan, 37.4, and Rochester, 38.0. Some of these fluctuations may possibly be accounted for by the use of more rigorous definitions of improvement by some hospitals. It is more likely, however, that the variations are due to differences in the selection of type of patient; for, as will be shown, the rate of "improvement" varies with the type of psychosis. On the whole, however, each institution appears to hold fast to its definitions and manner of selection from year to year, for the percentages reported in 1927 and 1928 are remarkably

consistent. The only exceptions appear to be Binghamton which reported 60.5 per cent of improvement in 1927 and 39.2 per cent in 1928; Creedmoor with 26.3 and 45.0 per cent respectively; Kings Park with 49.5 and 39.2, and Utica with 65.2 and 80.0. As measured by statistical tests, however, the deviations of the group as a whole are quite small.

TABLE VII. REPORTED CONDITION OF PATIENTS IN OCCUPATIONAL THERAPY DEPARTMENTS OF THE NEW YORK CIVIL STATE HOSPITALS, PER 100 UNDER TREATMENT FISCAL YEARS ENDED JUNE 30, 1927 AND 1928

State Hospitals	1927						1928					
	Recovered and improved			Unimproved, died and unreported			Recovered and improved			Unimproved, died and unreported		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
Binghamton.....	66.1	57.6	60.5	33.9	42.4	39.5	43.8	35.5	39.2	56.2	64.5	60.8
Brooklyn.....	31.2	62.7	49.0	68.9	37.3	51.0	32.1	54.0	46.4	67.9	46.0	53.6
Buffalo.....	51.1	56.3	55.1	48.9	43.7	44.9	50.7	62.4	59.7	49.3	37.6	40.3
Central Islip....	75.6	60.7	65.4	24.4	39.3	34.6	77.8	68.0	71.7	22.2	32.0	28.3
Creedmoor.....	29.0	24.7	26.3	71.0	75.3	73.7	36.4	50.8	45.0	63.6	49.2	55.0
Gowanda.....	53.8	38.5	46.0	46.2	61.5	54.0	47.4	31.5	39.6	52.6	68.5	60.4
Harlem Valley..	57.0	56.5	56.8	43.0	43.5	43.2	56.3	46.5	50.4	43.7	53.5	49.6
Hudson River...	24.6	30.6	29.7	75.4	69.4	70.3	11.7	22.3	20.5	88.3	77.7	79.5
Kings Park.....	50.2	49.0	49.5	49.8	51.0	50.5	41.4	37.6	39.2	58.6	62.4	60.8
Manhattan.....	37.0	34.4	35.3	63.0	65.6	64.7	37.9	37.1	37.4	62.1	62.9	62.6
Marcy.....	43.7	64.4	58.2	56.3	35.6	41.8	55.1	57.9	57.3	44.9	42.1	42.7
Middletown.....	69.8	88.9	81.7	30.2	11.1	18.3	77.7	77.6	77.6	22.3	22.4	22.4
Rochester.....	32.0	42.1	39.7	68.0	57.9	60.3	88.2	34.5	38.0	11.8	65.5	62.0
St. Lawrence....	75.7	67.6	68.4	24.3	32.4	31.6	60.0	68.9	67.9	40.0	41.4	32.1
Utica.....	36.4	76.7	65.2	63.6	23.3	34.8	89.7	68.2	80.0	10.3	31.8	20.0
Willard.....	.....	64.4	64.4	.....	35.6	35.6	.....	53.3	53.3	.....	46.7	46.7
Total.....	48.7	52.3	51.2	51.3	47.7	48.8	50.1	48.0	48.7	49.9	52.0	51.3

Table VIII shows by psychoses the reported condition of the patients after occupational treatment, per 100 under treatment. The variation by psychoses is smaller than that by hospitals, and is also more regular from year to year. In 1928, the maximum recovery and improvement rate was 70.7 per cent, reported in the psychoneuroses and neuroses; the minimum was 32.6 per cent, reported in the senile psychoses, a range of variation of 38.1 per cent compared with 59.5 per cent in the hospitals. Again by applying proper

TABLE VIII. REPORTED CONDITION OF PATIENTS AFTER TREATMENT FOR DIAGNOSED CONDITION IN OCCUPATIONAL THERAPY DEPARTMENTS OF THE NEW YORK CIVIL STATE HOSPITALS, PER 100 UNDER TREATMENT, FISCAL YEARS ENDED JUNE 30, 1926, 1927 AND 1928

Psychoses	1926						1927						1928					
	Recovered and improved			Unimproved, died, and unreported			Recovered and improved			Unimproved, died, and unreported			Recovered and improved			Unimproved, died, and unreported		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
Senile	32.2	34.7	34.3	67.8	65.3	65.7	32.3	33.8	30.7	66.2	69.2	67.6	32.2	34.7	34.3	67.8	65.3	65.7
With cerebral arteriosclerosis.....	40.6	45.1	43.3	59.4	54.9	56.7	31.4	31.8	31.4	68.7	68.2	68.6	31.3	31.8	31.4	68.7	68.2	68.6
General paralysis	38.3	52.6	46.0	61.7	47.4	54.0	43.6	53.0	47.5	56.4	46.1	52.5	45.2	49.3	46.7	54.8	50.7	53.3
With other brain or nervous diseases	66.2	69.2	67.6	33.8	30.7	32.3	53.6	62.1	58.1	46.4	37.9	41.9	56.5	63.6	50.9	43.5	36.4	40.1
Alcoholic	68.7	68.2	68.6	31.3	31.8	31.4	66.2	59.6	63.6	33.8	40.4	36.4	65.9	58.2	63.1	34.1	41.8	36.9
Manic-depressive	61.6	63.9	63.4	38.4	36.1	36.6	64.5	61.2	61.8	35.5	38.8	38.2	67.8	59.0	60.8	32.2	41.0	39.3
Involution melancholia	37.9	53.7	51.8	62.1	46.3	48.2	32.5	59.1	55.6	67.5	40.9	44.4	56.3	51.9	52.6	43.7	48.1	47.4
Dementia precox.....	44.0	44.9	44.6	56.0	55.1	55.4	45.0	48.8	47.5	55.0	51.2	52.5	46.2	42.2	43.7	53.8	57.8	56.3
Paranoia or paranoid conditions.....	65.7	60.2	61.3	34.3	39.8	38.7	49.0	50.4	50.0	51.0	49.6	50.0	60.4	40.1	45.4	39.6	59.9	54.6
Epileptic psychoses	27.3	51.2	42.1	72.7	45.8	57.6	38.7	49.5	44.9	61.3	50.5	55.1	32.1	49.0	41.5	67.9	51.0	58.5
Psychoneuroses and neuroses.....	60.0	72.9	69.4	40.0	27.1	30.6	70.4	66.3	67.2	29.6	33.7	32.8	64.3	73.9	70.7	35.7	26.1	29.3
With psychopathic personality.....	65.1	57.9	60.1	34.9	42.1	39.9	75.4	60.9	66.2	24.6	39.1	33.8	69.4	68.4	68.7	30.6	31.6	31.3
With mental deficiency.....	50.0	49.3	49.5	50.0	50.7	50.5	52.8	48.3	49.4	47.2	51.7	50.6	53.3	42.7	45.9	46.7	57.3	54.1
Undiagnosed psychoses	56.1	48.9	51.1	43.9	51.1	48.9	51.1	50.3	50.5	48.9	49.7	49.5	45.5	53.5	51.1	54.5	46.5	48.9
All others including those without psychosis	52.2	57.6	55.5	47.8	42.4	44.5	57.8	58.6	58.2	42.2	41.4	41.8	58.6	59.0	58.8	41.4	41.0	41.2
Total	47.5	50.6	49.5	52.5	49.4	50.5	48.7	52.3	51.2	51.3	47.7	48.8	50.1	48.0	48.7	49.9	52.0	51.3

statistical tests of measures of variation, we find that the hospitals show a variation in percentage of recovery and improvement about one and one-half times that shown in the individual psychoses. Among the psychoses with high improvement rates in 1928 were the alcoholic psychoses with 63.1 per cent, manic-depressive, 60.8; psychoneuroses, 70.7, and psychopathic personality, 68.7. Those with low rates were the senile psychoses, 32.6; cerebral arteriosclerosis, 43.6; dementia præcox, 43.7, and epileptic psychoses, 41.5.

What conclusions may be drawn from this preliminary survey? In the first place, it should be observed that despite the large numbers now benefiting from occupational therapy there still appears ample room for expansion. This is true of the State hospital system as a whole where exclusive of the physical training group only about 20 per cent of the patients are admitted to the occupational therapy departments; it is even truer of some of the hospitals where the percentage runs to a very low level. It also seems possible that something might be accomplished in the direction of increased facilities for the occupational treatment of male patients in some of the hospitals.

As might be expected, the higher percentage of patients under treatment are found in the functional disorders. It seems possible, nevertheless, that some of the benefits of occupational therapy might be extended to a greater proportion of patients in such groups as general paralysis or cerebral arteriosclerosis.

From the standpoint of the statistician we are in need of a better measure of the outcome of occupational therapy. Clearly we cannot be certain of the exact significance of the 50 per cent of improvements until we know the corresponding rate for either a control series, or the State hospital population as a whole. While awaiting such direct confirmation of the benefits of occupational therapy, however, those whose experience with the State hospitals goes back many years will not doubt that there has been a marked improvement in the patients since the more general use of this method of treatment. The record of accomplishment is an enviable one. It is a tribute to the vision and zeal of the director of occupational therapy, and of her large and devoted staff of therapists that so many thousands of patients are being raised from the depths of

despair to the heights of a self-supporting citizenry. What has already been accomplished augurs well for the future.

REFERENCES

1. Quoted in "Annales Médico-Psychologiques," March, 1929, page 196.
2. See 19th annual report of the New York State Commission in Lunacy, Oct. 1, 1906, to Sept. 30, 1907, page 285.
3. Ibid. Page 285. Quoted by Dr. C. W. Pilgrim.
4. See Occupational Therapy and Rehabilitation, December, 1927. Development of Occupational Therapy in the New York State Hospitals, H. M. Pollock, Ph. D.

AN INVENTORY OF MENTAL CLINIC FACILITIES OF NEW YORK STATE EXCLUSIVE OF NEW YORK CITY

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The New York State Committee on Mental Hygiene recently interested itself in the extent to which New York State, exclusive of New York City, was receiving mental hygiene service. It was felt that such an inventory might easily become the basis of a program of prevention for the entire State. Accordingly, a small committee was formed and a preliminary investigation started somewhat along the lines of a Survey of New York City Mental Hygiene Facilities recently completed by the National Committee for Mental Hygiene and the New York City Committee on Mental Hygiene.

The first subject undertaken in this study was the matter of clinic facilities available. Questionnaires were circulated among the clinic directors throughout the State, and in many instances personal visits by representatives of the committee were made so as to obtain additional information. An analysis of this data appears in statistical form at the end of this article. A few comments as to the broader conclusions which one may derive from these tables seem necessary.

Throughout the clinicians have been very cooperative in submitting data, for which grateful acknowledgment is made.

GEOGRAPHICAL DISTRIBUTION

The State hospital clinics are usually held once a week in towns within the district in which the State hospital is located. New York State has been divided for purposes of State hospital administration into fourteen districts. As far as the community program of these hospitals is concerned it is planned that each hospital send a psychiatric social worker and a psychiatrist to the large towns in its district. The clinics of the Division of Prevention are held once a month, usually in large towns throughout the State. In addition to this, occasional clinics are sent into rural districts, by the traveling clinic method, from two to four times a year. So wide-

spread has this system become that about 150 towns throughout the State receive some clinic service throughout the year.

The State Department of Mental Hygiene has made it a point to keep out of the large cities, such as Buffalo, Rochester, Syracuse, Albany and New York City, in the belief that these communities are sufficiently powerful and well developed to maintain their own clinics. Consequently, the clinics are sent into the districts which do not have sufficient resources for clinic service of their own, with the hope that in the future the local communities will see their way clear to take over these clinics.

Those clinics not maintained by the State, therefore, are located largely in the large cities and accordingly have more financial resources, better equipment and personnel than is possible in the case of State maintained clinics. In most instances such clinics are daily clinics with a working day from six to eight hours in length. The State hospital clinics usually have only a half day service, and the clinics of the Division of Prevention give a six hours' service.

TYPES OF PATIENTS EXAMINED

It was found that approximately only 7 per cent of the total number of clinics outside of New York City were conducted under auspices other than the State Department of Mental Hygiene. By far the most service to the community was being rendered by the State Department. A considerable difference in technique, personnel, contacts made with the community, and material handled was noted between the three types of clinics indicated in the statistical tables.

It was noted, for example, that the clinics maintained by State hospitals tended to concern themselves with the study of adults but that children were much more prevalent in the clinics maintained by the Division of Prevention and by the non-State maintained clinics. This is to be expected in view of the fact that the State hospital clinics for years have been conducted for the purpose of caring for patients placed out on parole. Within the past five years, however, there has been an increased tendency on the part of these clinics to examine adults who do not need commitment. Also, children have been brought into these clinics, usually in towns in which no child guidance clinics were available. The State hospital clinics, however, have only made a beginning in the great problem of caring

for the adult type of patient living in the community and a great amount of expansion along these lines will become necessary within the next few years. The other types of clinics referred to are the clinics which have been conducted with the theory that the approach to the problem of mental diseases could best be made through the study of children. It will be noted that of the 6,588 cases examined by the Division of Prevention and the non-state maintained clinics only 9 per cent of the patients examined were adults.

AUSPICES UNDER WHICH CLINICS ARE CONDUCTED

The environment in which the clinics are located has proved to be an interesting study. The State hospital clinics have shown a strong tendency to align themselves with general hospitals and health departments. The clinics of the Division of Prevention on the contrary are more inclined to gravitate toward community centers and schools, with a growing tendency to locate new clinics in health centers. It is conceivable that within a few years most of the clinics of the Division of Prevention will be conducted in connection with the various health units of the community. Already they are under more medical auspices than has been possible in the past. This procedure has resulted from the necessity of starting the clinics in schools. As the clinics became better known, especially to the medical fraternity, it was possible to move the clinics to health centers where they have had a much better standing than when connected with the schools only. The service to the schools remains as efficient as was ever the case under this arrangement but an additional feature is the ability of clinicians to secure better follow-up and better reference to medical services than is possible when the clinic is located in the schools.

The non-state maintained clinics outside of the city of New York tend to gravitate to the social agencies.

CLINIC PERSONNEL

The personnel of the various types of clinics differ widely. The State hospitals are able to send psychiatric social workers to the clinics, but do not maintain the ratio of two or three psychiatric social workers to one psychiatrist which is considered the standard

for clinic work. The psychiatric social workers come from the social service departments of the State hospitals, are fairly well-trained and are capable of doing good work. The chief objection, besides the low ratio of one psychiatric social worker to one psychiatrist, is the lack of time which these workers have for proper home investigations. This is especially true in connection with the non-parole cases. The hospital rightfully feels that its own paroled cases should be taken care of before attempting work for community cases.

The clinics of the Division of Prevention do not send social workers as a rule to the clinics but have made an arrangement which secures a combination of psychometric work and organization of local agencies for follow-up facilities. The field agents employed by this division are not fully trained psychiatric social workers but for the most part have had some training in case work, and in many instances have had additional brief courses in psychiatric social work. Emphasis is laid upon their ability to give psychometric tests, inasmuch as many of the children brought to the clinics fall within the feeble-minded class. The children are often referred to the clinic for the possibility of commitment. The field agents have little time for follow-up clinic recommendations but arrange for this work in the following manner:

The State is divided into five sections, each field agent being assigned to a section. It becomes her duty to have personal contact with all agencies in that district who can do follow-up work. The cases are referred to the proper agencies for follow-up and the field agent makes it a point to see that the clinic recommendations are carried out. In a way she acts as an instructor to the less qualified agencies in the matter of carrying out the recommendations made. The ratio of one field agent to one psychiatrist is much too low, of course, but it does accomplish the purpose of securing psychometric tests. Little attempt is made to develop or turn out more detailed tests, such as mechanical aptitude, association tests, emotional ratings, etc.

The non-state maintained clinics, however, have secured a very much better organization of personnel than is possible in the State Department. There is a marked tendency for these clinics to be conducted by psychologists rather than psychiatrists. The ratio

of psychologic to psychiatric hours, it will be noted by Table 3 is 2 to 1. For the most part the psychologists have been doing excellent work and seem to be well qualified not only by training but by temperament for effective clinic administration. The non-state maintained clinics, furthermore, have secured a much better ratio between psychiatric social work hours, and psychiatric or (psychologist) hours than has been possible therefore with State maintained clinics. This ratio as will be noted by Table 3 is 3 to 1 which is a marked contrast to the .9 to 1 ratio noted in the State clinics.

The privately endowed (non-state maintained) clinics have not been started until funds were sufficient to put them on the proper follow-up basis. Social agencies have long recognized that the follow-up is the most essential feature of all clinic work and have not attempted any clinic activities until this department of the clinic was properly organized.

Another interesting feature about the non-state maintained clinics is the diversity of tests given. A much greater effort is made toward rating the various talents of the individuals in these clinics than is attempted in the State clinics. This of course is largely due to the fact that most of the clinics are in charge of psychologists who stress this aspect of the work even more than it deserves.

PHYSICAL EXAMINATIONS

The physical examination of patients in the State clinics is done in every instance by the psychiatrist. The non-state maintained clinics, however, rely upon medical men who are not psychiatrically trained to make such examinations. Often these physicians have a very casual relationship to the clinic and cannot understand its needs or its objectives. This is regrettable because all work undertaken in the clinic should be highly cohesive. It is felt that the psychologist misses many physical implications by such an arrangement, thereby suffering limitations in the scope of the interpretation of the cases brought to the clinic.

SOURCES FROM WHICH CLINIC MATERIAL IS DERIVED

The sources from which patients are derived parallel rather closely the local auspices under which the clinics are conducted.

It is apparent from a perusal of Table 5 that the State hospital clinics have a relatively large proportion of cases referred by physicians or coming through newspaper notices since so many of the clinics are conducted in connection with general hospitals and the clinics receive considerable publicity. The clinics of the Division of Prevention draw heavily from the schools. It is rather surprising to note that the number of children referred through newspaper notices is quite small considering the fact that these clinics are regularly featured in the local newspapers. Seemingly, parents cannot be educated through the ordinary publicity channels to bring the problems of their children to the attention of clinics. It would seem that the best method of parental education along these lines is through the social agencies and welfare workers. Approximately one-half as many children were referred by such agencies to the Division of Prevention clinics as were received through the schools, despite the fact that less than two per cent of the clinics were located in community and welfare centers.

It will be noted that the non-state maintained clinics draw heavily from the social agencies and courts. This is to be expected in view of the fact that this type of clinic is largely the outgrowth of the demands of welfare agencies for special service on account of the difficulties in getting adequate examinations through the usual hospital or health department clinics.

Tables 5 and 8 also would appear to indicate that the clinics of the Division of Prevention are not securing sufficient contacts with nursing services. In most instances the various types of nurses in any local community have the greatest number of contacts with children in need of physical and mental health. It is rather significant that the Division of Prevention clinics draw less than 5 per cent of their cases from nursing services. A further item of interest in this connection is the increasing tendency on the part of social agencies to refer children to the State hospital clinics. The 766 children examined by these clinics during the past year appear to have been a considerable increase over the previous year. Apparently this is due to the local agencies becoming increasingly sensitized to the need for bringing problem children to the clinics. The clinics maintained by the Division of Prevention are not given

sufficiently often to take care of all cases. Consequently the overflow is taken to the State hospital clinics.

Table 5 gives strength to this assumption by the comparatively large percentage of cases referred by schools and welfare agencies to both the State hospital and the Division of Prevention clinics; that is to say, both sources of references are using the same clinics.

ADEQUACY OF FOLLOW-UP

The study made of the mental clinics throughout the State not only concerned itself with the personnel involved and the sources from which clinic material was obtained, but an effort was made to determine the adequacy of examinations with especial reference to methods of follow-up. Several outstanding features in successful follow-up work were kept in mind in preparing the questionnaires. It was felt that the best work could be done by a clinic which had adequate follow-up facilities of its own. In very few cases was this procedure possible, however, and some compromise had to be effected by the clinic. In most instances the State hospitals attempted the follow-up of their own paroled cases and a limited number of non-paroled cases (See Table 11). The clinics of the Division of Prevention did very little follow-up work but depended upon the local agencies referring the cases to carry out the recommendations made at the clinic. Over 85 per cent of the clinics resorted to the foregoing devices.

The non-state maintained clinics were able, through their own well equipped psychiatric social service department, to do the follow-up work quite completely for most of their cases.

The methods by which the recommendations were made clear to the agencies referring the cases and by which a future check-up was made on such recommendations proved to be quite variable. The State hospital clinics seemed, for the most part, to be content to talk out matters with the referring agent (for non-paroled cases) and but little attempt was made to consult with the agent as to the effectiveness of the recommendations. Quite often it was felt that return visits were more adequate than a check-up with the agency.

The clinics maintained by the Division of Prevention have elaborated a rather complicated system of check-up which has obviated to some extent the necessity for return visits. At the time the case

is examined at the clinic the clinician explains the recommendations to the referring agent. One month later a special form, on which the recommendations have been copied, is forwarded to the agent with the request that such recommendations as have already been carried out be checked off and explanations as to what has been done about the remaining recommendations be listed. If any difficulty in carrying out the recommendations seems to have arisen, the field agent makes a personal call upon the referring agent, explains the matter at some length, and if necessary assists the agent in carrying out the recommendations.

The extent of the differences in follow-up systems of the State hospital clinics and those maintained by the Division of Prevention becomes obvious in Table 9. It will be noted, relatively speaking, that the latter clinics have a much lower percentage of return visits than is the case in the State hospital clinics. On the other hand the consultation facilities are much better than is the case with the State hospital clinics.

The non-state maintained clinics use a combination of these methods. Return visits are frequently required and a check-up on recommendations made is also quite complete. This method, of course, is to be recommended over the methods used by the other two groups of clinics.

It will be noted by Table 6 that all types of clinics resort to the interview between psychiatrist and referring agent. Staff conferences are relatively infrequent with the State maintained clinics, whereas they are quite likely to be a routine procedure with the non-state maintained clinics. The value of staff conferences cannot be over-estimated, provided the time consumed is not excessive. It would seem that such procedure is one of the best methods for keeping up the scientific standard of any clinic and preventing it from deteriorating into a mere routine procedure.

COMMUNITY CONTACTS

In visualizing the activities of these clinics the committee had in mind the necessity for clinics maintaining wide contacts in the communities in which they are located. It was felt that not only an acquaintanceship with the leading welfare workers, physicians and other professional groups in the community was necessary but that

a full understanding of the work of the clinic by these people should be sought. Accordingly, the questionnaire was so worded as to contain an estimate of the relative extent to which the clinic had reached out into the community in identifying itself with various activities. Presumably the basis of the personal contact theory is that clinics should be considered as much as possible a part of the community itself—an activity in which there is widespread interest by the most outstanding people in the district.

In Table 7 an attempt at an analysis of these contacts has been made. It will be noted that in all types of clinics a considerable amount of understanding of the objectives of the clinics has been spread throughout the community, but this is most apparent in the non-state maintained clinics. The reason is obvious. Any clinic maintained by a community thereby becomes an integral part of that community in constant touch with its various activities of necessity, and has much deeper roots than is the case where the clinic is brought in more or less casually by an outside organization. Nevertheless, the table shows a surprising amount of actual close relationship with the community by the State Department. The State hospital clinics are strongest in the medical, judicial, health and nursing services and weakest in the schools, social agencies and charitable organizations. The reverse is true of the contact made by the clinics maintained by the Division of Prevention. These differences, of course, can be explained to a large extent on the differences of locale, the material handled, and the standing in the community. It is felt, however, that both types of clinics would do well to foster further relationship along the lines indicated.

RETURN VISITS

The final topic investigated by the committee was the matter of return visits. It is felt that this item not only checks up the effectiveness of the follow-up mechanism of the clinics but indicates to a certain extent the faith of the community in the efficiency of the clinics and the extent to which the clinics have made themselves a part of the community.

Table 10, which refers to return visits, is rather confusing inasmuch as the parole and non-parole cases of the State hospital clinics

have not been separately indicated. Parole cases return regularly as a matter of routine. It is not possible at this time to secure the data as to the extent of such return visits nor to separate them from the non-parole cases. The habit of asking patients to return, however, has been widely extended by the State hospital clinics to non-parole cases and is used routinely by these clinics. Unfortunately, parole cases do not require much examination after the third or fourth visit. Consequently the contact made has tended to become inadequate. Furthermore, this technique is extended automatically to the examination of non-parole patients, so that there is a trend towards the ill-advised procedure of running through the clinics a fairly large number of parole and non-parole patients without the intensive study which the situation requires. The number of patients seen at the clinics of the State hospitals as compared with the number seen by the clinics of the Division of Prevention and the non-state maintained clinics makes this point obvious. During the last year, State hospital clinics examined 5,270 cases during 3,246 clinic hours, an average of 1.6 cases per hour. During the same period the clinics of the Division of Prevention examined 3,637 cases during 4,407 clinic hours, an average of .8 cases per hour. In other words, twice as many cases per clinic hour per clinician were examined in the State hospital clinics than has occurred in the clinics of the Division of Prevention. The non-state maintained clinics have examined 2,951 cases during 3,783 clinic hours, an average of .78 cases per clinic hour, indicating quite clearly that a much more exhaustive examination is given by both these clinics than is the case with the State maintained clinics.

CONCLUSIONS

From the foregoing discussion certain broad conclusions can be drawn:

1. A mechanism exists throughout the State of New York for giving clinic service of some sort in every large village and city in every county throughout the State.
2. The methods of conducting these clinics are surprisingly standardized considering the extent of sources, the number of clinics and the varying types of agencies which they serve. This is due largely to the fact that over 85 per cent of the clinics are con-

ducted by the State Department of Mental Hygiene which has worked out standardized methods. The non-state maintained clinics are giving a much more adequate type of service to the community, largely on account of better financing and better facilities for thorough work which come with establishment of clinics in metropolitan areas of the State.

3. Certain marked inadequacies exist in all types of clinics, the outstanding features of which may be outlined as follows:

(a) State hospitals—insufficient time given to individual examinations; inadequate follow-up.

(b) Division of Prevention—Lack of psychiatric social work in connection with the clinics; too much dependency on untrained agencies to carry out follow-up. The territory covered by field agents is too large, thereby making it difficult for each field agent to devote sufficient time to training local agencies as to follow-up methods.

(c) Non-state maintained clinics—The hours of the psychologist are excessive as compared with the hours of the psychiatrist; too much dependency placed upon non-psychiatrically-trained physicians for physical examination data; insufficient contacts with hospitals, physicians, health departments and other medical sources.

(d) The lack of a co-ordinating mechanism such as the appointment of the head of the Division of Prevention of the State Department of Mental Hygiene; the lack of a chief field agent to co-ordinate and develop the activities of the field agents of the Division of Prevention; the lack of a co-ordinating agent for the various clinics maintained by the State hospitals so as to standardize methods; and the lack of a central bureau of social work for the State hospitals and the schools for the feeble-minded.

**STATISTICAL DATA ON MENTAL CLINIC ACTIVITIES IN NEW YORK
STATE FOR CALENDAR YEAR—1928**
(Exclusive of New York City)

TABLE 1. TOTAL EXAMINATIONS MADE

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics*
Adults	4,504	79	551
Children	766	3,558	2,400
Total	5,270	3,637	2,951

* Data from clinic in Rochester Public Schools not listed.

TABLE 2. LOCALE OF CLINIC ACTIVITIES

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics
Clinics conducted in out-patient departments of general hospitals	13	8	3
Clinics conducted in public health centers or in connection with health department	14	17	2
Clinics located in community and welfare centers....	9	2	3
Clinics conducted in connection with schools.....	..	36	1
Miscellaneous (Court House, Elks' Club, etc.)	7	31	3
Total	43	94	12

TABLE 3. NUMBER OF HOURS MONTHLY DEVOTED TO CLINICS

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics**
By psychiatrists	270	376	574
By psychiatric social workers	218	5	1,724
By psychologists	20	..	1,144
By field agents, psychometrists and semi-trained workers .....	..	373	328
Total number of clinic hours per month.....	509	754	3,770

** Three of the twelve clinics tabulated in this column are under the direction of psychologists.

TABLE 4. AVERAGE PERSONNEL HOURS PER CLINIC SESSION

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics
Psychiatric hours	6.2	3.9	3.2
Psychiatric social work hours.....	5	..	9.8
Psychologic hours	4	..	6.5
Field agent hours .....	..	3.9	1.8
Average clinic personnel devoted to each patient at clinics	0.61	1.21	1.3
Average number of cases examined per clinic hour..	1.6	0.82	0.78

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TABLE 5. SOURCES FROM WHICH PATIENTS WERE REFERRED TO CLINICS

	Clinics of State hospitals Per cent	Clinics of Division of Prevention Per cent	Non- State clinics Per cent
Referred by physicians	22.44	5.15	4.00
Referred through newspaper notices.....	13.75	1.45	....
Referred by school superintendents or school nurses	10.86	44.29	24.00
Referred by courts or probation departments.....	7.96	13.91	4.00
Referred by social and welfare agencies.....	12.31	20.09	28.00
Referred by city nurses	3.62	2.575	4.00
County and public health nurses	3.62	1.545	....
T. B. nurses	2.89	1.030	....
Visiting nurses.....	.72	....	....
Referred by health officers	4.34	2.57	4.00
Referred by overseers of the poor and county or- organizations	4.34	2.25	8:00
Referred by clinics of hospitals	9.41	1.03	12.00
Referred by Red Cross	2.89	0.52	....
Referred by orphanages	0.72	3.09	12.00
Referred by friends and relatives.....	0.12	0.52	....

TABLE 6. EXTENT TO WHICH REFERRING AGENT RECEIVED EXPLANATION OF
RECOMMENDATIONS MADE BY CLINICIANS

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics
(a) Agent interviewed by:			
Psychiatrist	43	92	11
Psychiatric social worker.....	25	..	6
Psychologist .....	..	..	7
Field agent .....	..	90	..
(b) Staff conferences held on cases.....	1	3	7
(c) No conferences or interviews held with refer- ring agent	1	2	..

TABLE 7. SOURCES FROM WHICH CHILDREN ARE BROUGHT TO CLINIC

	Clinics of State hospitals, Per cent	Clinics of Division of Prevention, Per cent	Non- State clinics, Per cent
Children referred by physicians.....	11.06	1.01	13.5
Children referred by schools	25.95	64.11	34.7
Children referred by children's courts.....	3.18	5.41	10.1
Children referred by social and welfare agencies..	34.51	24.22	32.1
Children referred through publicity.....	20.53	1.06	....
Children referred by other agencies (unstated)....	4.77	4.17	9.6

TABLE 8. CONTACTS OF CLINICIANS WITH LOCAL AGENCIES

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics
Average percentage of local agencies understanding purpose of clinic	45.11	24.64	72.2
Average percentage of local agencies having acquaintanceship only with clinician	8.92	3.53	4.2
Average percentage of local agencies reporting no contact with clinic	45.97	71.83	33.6

TABLE 9. EXTENT OF SERVICE RENDERED TO CLINIC BY PSYCHIATRIC SOCIAL WORKER OR FIELD AGENT

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics
Number of clinics reporting follow-up of all cases by social worker	8	..	7
Number of clinics reporting a limited number of cases followed up by social worker	21	12	2
No cases followed up but advice given to referring agents	14	82	3

TABLE 10 RETURN VISITS

	Total	Clinics of State hospitals Average per clinic	Total	Clinics of Division of Prevention Average per clinic	Total	Non- State clinics Average per clinic
Return visits during calendar year.....	4,723	109.8	653	6.9	2,526	210.5
Number of cases returning	1,362	31.6	465	4.9	806	67.2

TABLE 11. METHODS USED BY CLINICS IN CHECKING UP OUTCOME OF RECOMMENDATIONS*

	Clinics of State hospitals	Clinics of Division of Prevention	Non- State clinics
Clinics recording return visits as a general routine..	39	48	8
Clinics using follow-up questionnaire in addition to return visits	9	78	..
Clinics consulting with agency doing follow-up about one month after original examination.....	17	90	4
Clinics making no check-up whatever on recommendations	4	3	3

* Overlapping occurs because some clinics use more than one method.

BOOK REVIEWS

Morton Prince and Abnormal Psychology, by W. S. TAYLOR, Professor of Psychology in Smith College. D. Appleton and Company, New York and London, 1928. \$1.75.

Dr. Prince has been a prolific writer in the field of abnormal psychology. His doctrines have appeared, however, largely in the form of scientific articles from time to time, many of them in the *Journal of Abnormal Psychology*, of which he is the founder and editor. The two books by which he is best known are, *The Dissociation of a Personality* and *The Unconscious*.

The author of this little book of 122 pages holds that Dr. Prince is the only American who has developed a system in the field of abnormal psychology comparable with those of his European contemporaries, Freud and Janet. He feels, therefore, that there is a real need for a lucid and comprehensive statement of the whole position of Professor Prince in a unified form. Professor Taylor thus becomes Dr. Prince's interpreter to the general public and to the medical and psychological professions. The author brings to this work a background of long study of abnormal psychology and it is with understanding and sympathy that he has prepared this compact, accurate, and comprehensive statement of Dr. Prince's system, drawn from his published and unpublished materials. It may be supposed to be authoritative since it is checked by Dr. Prince's own criticism and review.

The general topics treated are: General conception of the organism, the problem of urges, association, integration, conflict, dissociation, consciousness and "the sub-conscious", the genesis of functional disorders, types of functional disorders, the basis of psychotherapy, special methods in psychotherapy.

Prince considers the organism biologically as an adjustmental system within which are certainly thoughts, feelings, wishes and often conflicts. The relation of the psychical and organic are conceived monistically. The ideational and affective elements of our lives are not mere epiphenomena dependent on a more real substratum, the organism, but the total phenomena are two sides of one and the same thing a la Spinoza. This is of course a hypothetical assumption. Relative to instinctive urge he opposes Freud's libido as a single basis for all human actions as untenable, and considers emotion as dependent on the stimulus-response principle; the law of the final drive is more comparable to the physical law of the "resultant of forces." In all this, as in the grounds of memory association and integration, we have nothing enlightening. If we knew every detail of neural registering, conservation, and reproduction in the process of experience, we would be no better

off so far as conscious memory is concerned; memory is a psychical *sui generis* and no amount of neural science enables us any the better to understand the amazing fact. Conflicts are generally between systems of association motivated by conflicting urges of various sorts; "whichever impulse is the stronger necessarily downs the other." Conflicts thus manifest themselves in rich and various ways. Princee agrees with Sollier that dissociation is "the same as normal sleep, only localized." Conflictual inhibition may thus explain dissociation.

Relative to the *subconscious* it is only a name which covers all elements, active and quiescent, conscious or unconscious, which are not now participating in an individual's ordinary awareness. The subconscious are all psychological processes which occur without the "central" personality's awareness. Unconsciousness has in it alternating trains of consciousness. Princee admits, "strong as the evidence for subconscious mental processes is, it still lacks absolute demonstration." Thus in subconscious writing no one has shown or can show by laboratory methods of precision that it is not done by rapid oscillations of different dissociated systems of consciousness.

Princee is convinced of the reality of the organic or structural maladjustments as accounting for many forms of nervous and mental diseases. Yet he is aware of the frequent complications of functional disorders without the organic factors. The functional disorders may be understood through the processes of lowered psychological resistance, conflict, dissociation, subconscious incubation, and abnormal reintegration, often following upon untoward experience or mis-education or both. He considers special factors in this connection, as association, autosuggestion, "set" or expectation, memories and experiences of a particular emotional tone which associate strongly with other items of the same kind and incubate subconsciously, repression as a special type of conflict, and active subconscious processes which are capable of effecting dissociation, all act to develop functional disorders. Princee himself has studied many of the types of functional disorders, but not all.

Princee would not limit therapy to psychotherapy, naturally from his granting full place to organic as distinct from functional disorders. In fact, since psychological processes are bound up with neural processes, psychotherapy is itself understandable in neural terms. As a break between associations represents only a relative weakness in association, a lack of normal habitual connection between disjoined elements, this is the point of opportunity for the psychotherapist; where there is dissociation, he must re-associate, where there is wrong association, he must make new associations. Psychotherapy is essentially a process of "re-educating the individual to healthy reactions." Analysis must show where the re-education is needed. Sugges-

tion is one form of re-education; "catharsis" is often helpful, but not essential to a cure; resetting, re-education, which can occur without either "catharsis" or bringing to full waking consciousness is the essential process.

As to special methods in psychotherapy word-association as a method of detecting submerged complexes, and the data obtained by "free association," should be used with a degree of caution and should not go further than the facts warrant. In obstinate cases hypnosis has the advantage that suggestibility is increased and antagonistic ideas inhibited and new ideas accordingly more readily accepted and the complexes more easily and firmly organized. In all cases the therapeutic process is the association through education of healthy ideas and stimuli that adapt the individual to his environment.

Certain deficiencies in Prince's system are noted, such as the role of infantile sexual interests as observed by Freud, the defense reaction and compensation, and the process of rationalization.

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Modern Psychology, Normal and Abnormal: A Behaviorism of Personality, by DANIEL BELL LEARY, Ph. D., University of Buffalo. Author of "That Mind of Yours", "Education and Autoeracy in Russia" and others. Published by J. B. Lippincott & Company.

The purpose of the author "is to present*** a scientific basis for the study of the behavior of personality*** to *** evaluate and classify personality on the basis of types and degrees of dynamic adjustment to the physical and social environment; finally to bridge the gap between physiology, as an atomism of human behavior, to such a synthetic point of view as may properly be called a behaviorism of personality."

This book of some 430 pages is divided into four parts. Part I deals with fundamental structures, drives and mechanisms, discusses the purposes of various schools of psychology, its relation to other sciences, and the field of applied psychology. Other chapters follow on the biological bases of psychology, the psychological level and the dynamics of behavior.

Part II takes up intelligence; its nature and functioning; four chapters are required to outline the author's concepts on learning in general, language guage and intelligence, variations of intelligence and intelligence and general behavior.

Part III treats of the personality, normal and abnormal, the relation of personality to society, also the meaning and technique of psychoanalysis.

Part IV presents types and systems of personality adjustment, dealing with the psychology of delusion and belief in Chapter I, and with magic,

mysticism and religion in Chapter II. The other chapters give the author's ideas on the nature and function of art and beauty, philosophy and psychology.

A great deal of ground is covered within the scope of this book as is shown by the chapter headings as outlined above. Much of it is quite worth while, but in the interest of clearness the reviewer believes the author might have eliminated a great many qualifying phrases and much meticulous detail. He also maintain an iconoclastic attitude without presenting anything better than the theories which he has turned down.

Each chapter is summarized and a generous bibliography is appended affording the reader an opportunity to compare the author's conclusions with those of others. There appears to be nothing new added to modern psychology; the author merely presenting his variation from a behavioristic attitude.

GRAY.

Zur Pathologie Der Dementia Praecox. Gastrointestinale Störungen; Ihre Klinische Und Ätiologische Bedeutung. [On the Pathology of Dementia Praecox. Gastrointestinal Disturbances; Their Clinical and Etiological Significance.] By DR. PAUL J. REITER.. Lewis & Munksgaards Verlag, Kopenhagen, 1928.

This is a very interesting and painstaking study of the gastro-intestinal tract not only of dementia praecox patients, but also of other psychotic patients. There is a great amount of data which does not lend itself readily to summary but there are certain conclusions which are worthy of consideration.

As for the actual material used there were 79 dementia praecox patients and 55 control patients. Of the latter, 38 were manic-depressive, 4 psychopathic, 4 epileptic and 9 organic psychoses—of which 6 were paretics. The age of the patients employed varied, as did the duration of the psychosis. Twenty-three autopsies were performed on dementia praecox patients and 14 neurologic examinations were made of dementia praecox patients who gave evidence of motor disturbances.

A thorough examination of the gastrointestinal tract followed the administration of an Ewald meal. The gastric motility and acidity were determined in a variety of ways. X-ray examinations were made, as well as tests for pepsin, pancreatic and liver function, indican, etc. The pulse rate and temperature were recorded. A pupillary examination was made. Histological examinations were made of all material which came to autopsy.

As for the actual results of the control group, the following points stand out:

First, in the manic-depressive patients there is an abundance of hyperacidity. The frequency of gastric ulcer is unusually high and far beyond that found normally. There is also evidence of disturbance of intestinal function. Fifty per cent of manic-depressive patients are constipated. They show an insufficient digestibility of carbohydrate, which amounts to what Reiter calls dyspepsia.

In the other patients in the control group there was nothing of very special significance.

In the dementia præcox patients the following results were noted:

Hypersecretion of gastric acidity with a marked tendency towards hypoacidity and achylia. There was delayed emptying of the stomach and dyspepsia in the small intestine. A tendency to diarrhea was observed and occult blood frequently found. There seemed to be a large amount of catalase present. There was evidence of indicarnuria and insufficient liver function. Compared with the manic-depressive patients, gastric ulcers were absent. Gastritis and enteritis were common. The most significant single constant finding was a presence of intestinal inflammation of a chronic nature which often proved fatal. This inflammation was refractory to medication. The author considers the functional derangement of the intestinal tract to be directly related to the psychosis and not referable to exogenous mechanical causes.

From a pathological point of view there was evidence of acute and chronic gastroenteritis which was the cardinal symptom and a frequent cause of death in dementia præcox patients.

Seventy-five per cent of these patients showed an elevation of temperature which was indicative of an infected process. With regard to the intestinal inflammation, although medication was of no avail, the author says "perhaps change of flora might be of benefit."

In order, eventually, to arrive at the etiology of dementia præcox, much work needs to be done. According to Reiter's judgment, this must come through profound bacteriologic and serologic investigations. He says "One must search for specific reactions in the blood and establish the presence of specific antibodies." And further, he goes on to say that not the least important investigation is that of the intestinal flora, not only at any particular single level but in the small intestine as well as in the large intestine.

The sum and substance of the whole book, if expressed in a single sentence, might read:

The gastroenteritis found in schizophrenics is the cause of the psychosis, probably through a lesion of the gastrointestinal tract which ordinarily would protect against toxins which are, in the last analysis, the really important factor in producing the psychosis.

One might criticize this book on several grounds, the most important of which is that it is practically impossible to determine from the data given, whether the gastroenteritis preceded the psychosis or whether the gastroenteritis was a secondary involvement. Again, we are familiar with the fact that tuberculosis is common in schizophrenics. According to Reiter, the incidence of tuberculosis in schizophrenics in Denmark is extremely small. I raise this point because one might be likely to encounter gastroenteritis in tuberculous schizophrenics. Again, the author makes a point of the lowered gastric acidity in schizophrenics and bases this on the Ewald technique where an analysis of the total contents of the stomach is made after one hour. This method is not nearly as satisfactory as the Rehfuess method of fractional gastric analysis which we have employed in this country. So one could not accept his conclusions with any degree of assurance.

An important criticism against this book is that it is dated 1928 and contains very few references since 1923. However, the volume is an extremely important and stimulating contribution to the subject of schizophrenia.

KOPELOFF.

Gestalt Psychology. By Dr. WOLFGANG KOEHLER. Horace Liveright, New York. 1929. \$4.00.

This is the first definitive exposition in English of the German Gestalt Psychology. It is written by the leading representative of this doctrine and is thus authoritative. The work is hailed with special satisfaction because, for the most part, we have had no clear or satisfactory statement relative to this school of thought in the current literature on the subject. We have all been seeing *gestalt psychology* through a glass darkly.

What then is the essential conception of the gestalt psychology? We have seen no comment of the kind, but it is pertinent to say that the gestalt psychology fundamentally may be regarded as an extended footnote to Kant's Transcendental Aesthetic, in his Critique of Pure Reason. Kant here shows infallibly that space and time are *gestalten* or "forms" of the mind, immanent mental principles which precede all articulate experiences and make them possible. Space and time are not, therefore, derived from experience but are the pre-conditions of experience; they are *a priori* "forms" of the mind, the organizing principles of experience. With this understanding the gestalt conception is thoroughly well grounded and valid in every way.

Since the mind is constituted with these categorical "forms", therefore, it is natural for it spontaneously to "formulate" its experiences. Generalization and organization are immanent functions of the mind. Universals

are never given in experience, yet science depends on universal and necessary truths; these are found only *a priori* or by insight of reason itself. Hence we experience all things synthetically as unitary forms, as organisms, as wholes. Thus Koehler points out that a dynamical distribution is regarded as a functional whole. Just as in an electric circuit no part of the distribution is self-sufficient but a break at any point destroys the whole, so in an experience each element in the distribution is dependent on and conditions the whole. "Gestalt" means *form* or *organization*. Without this spontaneous organizing function of the mind experience would be chaotic. The simple idea, then, seems to be that, contrary to the usual view that objects are experienced as their several sensory analyzed parts, gestalt psychology maintains that they are experienced as synthesized wholes. Experience is a spontaneous organizing, unifying process.

Most objects of experience take on definite "form", have clear boundaries which segregate or separate them from all others. In most visual fields the contents belong together and we have circumscribed or bounded units from which surrounding elements are excluded. Just as molecules are conceived as functional units in physics, so definite whole seem to be dynamically detached in the sensory field. As units, things are also bound together so that they move as whole. Groups consisting of separate members have special interest since they prove that one unit segregated in the field may at the same time belong to a larger unit. The "gestalten" or "forms" of experience may be spatial or temporal or both. Wertheimer is given credit for having first seen the fundamental importance of spontaneous grouping in the sensory field. This elementary organization is viewed as an original sensory fact. That it must be such follows from the *a priori* nature of space and time and the synthesizing procedure of the mind in all experience.

Koehler seeks to show that segregation of the "gestalten" or wholes occurs in the nervous system. He points out that the several rays of light fall on different areas of the retina and that there is no organization of the stimulation, no segregation, no wholes, until sensory organization begins physiologically. That such organization is *psysiological*, however, is evidently pure assumption, for of this we know absolutely nothing. Nevertheless we agree that stimulation as such is completely unorganized and that organization is necessary. For this reason the hackneyed phrase "stimulus and response" is misleading, since the stimulus as used has in it no principle of organization which is found in the response. Constellation of stimuli, organization, reaction to the results of organization, are suggested as better meeting the facts. The main contention is that "form" can never be explained by the existence of sensations but is an original sensory fact. The properties of wholes are not achieved by "higher" mental processes, but sensory organi-

zation is as natural and primitive a fact as any other side of sensory dynamics. In all dynamical self-distributions process-in-extension exists as a functional whole. Even "forms" of processes are recognizable, and thus the gestalt concept may be applied far beyond the bounds of the sensory field. Our thinking deals with ready-made whole.

Koehler's uncritical outright assumption that sensory organization is achieved physiologically in the nervous system is carried over into his study of behavior, reproduction, and association with its various applied modifications. We are unable, however, to commend his work highly in this particular. We submit that here he has fallen prey to a dogma of traditional psychology. We are absolutely ignorant as to what takes places in the nerves and, in lieu of knowledge, in all psychologies we are treated to nothing but tedious vagaries of the imagination. Reflection makes clear that even if we were able to trace and know everything that takes place in the nervous system in detail we would be no better off by way of understanding the simplest sensation to say nothing of the complications of rational processes. All that can conceivably take place in a nerve is some form of molecular motion. But motion is not sensation. From a vibrating nerve we could never infer a sensation, from a sensation we could never infer a vibrating nerve; the two orders are connected in fact, but the inner relation is to us utterly opaque. Hence Koehler only repeats in new "forms" the old neural barbarisms in attempting to explain sensational organization in behavior, reproduction, and the like. In general, the vain imaginings as to the neural processes is the perennial source of superabounding psychological mythology.

This work by Koehler is not merely an exposition of the gestalt or form doctrine, but is a critical examination of other psychological considerations by way of approach to the claims of his own school. He first criticizes the behaviorists' viewpoint and conducts an annihilating arraignment of their position. He demonstrates that the natural scientific method on which behaviorism proceeds is inapplicable and fallacious as applied to psychology. He mildly says that the attitude of behaviorism toward "direct experience", "consciousness", and so forth, "appears very strange to me." In criticism of the introspectionists' viewpoint, however, he finds them so much like the behaviorists in their fundamental opinions and general attitudes that he sees no reason for preferring the one to the other. This certainly seems like an *ex parte* argument in behalf of the gestalt propaganda. We know of no fundamental likeness between introspectionism and behaviorism, unless it be in certain phases of technique; their general viewpoints are as different as anything could well be.

In this connection Koehler raises a timely caution relative to the present fad of quantitative measurements in psychology. We cannot measure men-

tal facts at all in the popular sense of that term; we simply count positive and negative cases. Hence broad qualitative work is always necessary as supplemental to all such quantitative investigation. The present one-sided glorification of quantitative procedure as such is superficial and dangerous. The quantitative method of natural science has no real applicability to mental facts, which exemplifies the folly of supposing any single method can be used as a universal *modus operandi* in scientific work. Intelligence tests may show something like a crude total ability for certain achievements, and aid in rough prognosis, but in general they are of dubious value.

His discussion of dynamic as opposed to machine theory is valuable in showing the limits and futility of the mechanical theory in psychology which has prevailed since the time of DesCartes. Order is the striking thing in the world. The "blind" play of nature could never produce order but only cause the machine to move; the order of the movement must be enforced by the special arrangements which are traits of the machine itself. Thus the mechanists never entertain the idea that some specific and orderly functions might occur without being controlled by special arrangements pre-established *ad hoc* or acquired through learning. It is, however, just this fact that gestalt psychologists find. They contend that local stimulation in no way explains the organized experience and that the sensory facts themselves change with subjective attitude. For example, in a tonal clang we have constant conditions of stimulation, but our attitude transforms the sensory realities, the partial tones revealed in analysis, into the unity of a single clang. In behalf of order in nervous functions, machine theory excludes organization in the field of experience. The dynamic theory, conversely, allows the sensory experience to be as fluid and manifold as it is revealed in observation. Organization thus depends on "relative properties" of stimulation; that is, everywhere the aspect of sensory experience depends on the properties of stimuli in mutual inter-relationship. This is the basic conception of the gestalt psychology.

With the reservation noted, we wish to speak in unbounded praise of Dr. Koehler's *magnus opus*. It is well written, beautifully printed, and will be welcomed gratefully by the thousands of psychologists in America. The basal concept of the gestalt psychology is not only eternally valid but is of universal application. We think it just to say that Ritter in our own country long ago applied in biology the essential principle involved in the gestalt psychology, in that he showed that the organism cannot be conceived as an aggregate of independent cells, but that each cell is dependent on the law of the whole for its place and function in the organism. Koehler's work is very timely and he has our heartiest thanks for this authoritative exposition of the gestalt psychology.

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Report of the Mental Deficiency Committee, Being a Joint Committee of the Board of Education and Board of Control. Parts I, II, IV. London, 1929. Printed and published by His Majesty's Stationery Office.

In 1904, a Royal Commission was appointed to consider methods of dealing with idiots, epileptics, imbeciles, feeble-minded or defective persons not certified under the lunacy laws. The commission issued a report four years later, which immediately assumed an authoritative position. The report resulted in a new act for the care and control of defectives, passed in 1913.

The Mental Deficiency Act of 1913 made it the duty of local education authorities to discover all mentally defective children between the ages of 7 and 16 within their areas. This law came into force April 1, 1914. The Elementary Education Act made it the further duty of these authorities to provide education for mentally defective children. This law went into effect August 1, 1914.

The war made it extremely difficult if not impossible to carry out the provisions of these laws. Returns sent in to the Board of Education after the war, however, showed extreme variations in the alleged incidence of cases of mental deficiency. No successful program—especially one including building activities—could be based upon so shifting a foundation. The Board of Control was also interested in a more trustworthy estimate of the prevalence of mental defect. The two Boards, therefore, united in a thorough going attempt to achieve a reliable statistical basis for their activities.

Two questions were proposed for investigation: (1) How many mental defectives are there? (2) What is the best way of dealing with mental defectives?

The answer to the first question involved an investigation which is probably the most comprehensive of its kind ever undertaken. Almost three and one-half years were spent in the investigation; two and one-half in the collection of the data, and a year in their analysis and the preparation of the report.

Six areas were selected for investigation, three urban and three rural, so chosen as to be geographically, racially, industrially and socially, typical of England and Wales as a whole. The population of each area was approximately 100,000. Such a selection, in a sense, was atypical, for the rural and urban populations are equal in the selected areas, whereas in England and Wales, the ratio is 4:1 in favor of the urban population. In applying the results of the survey to the county as a whole, this difficulty was overcome by a proper system of weighting.

The examination of the children was particularly thorough for they were almost all found in the public schools. The teachers in each school were

asked to select the 15 per cent of pupils at each age whom they considered the most retarded. These were given standardized group tests. Those failing were finally given individual tests. These were supplemented by field investigations including home visits. It is obvious therefore that such a study is not only more complete but scientifically more accurate than most surveys of the same type. A slight source of error was caused by the fact that children under 7 years of age not being in school were not counted completely.

The adult defectives were not discovered by means of standardized tests, individual testing being found impracticable in their case. Close reliance had to be placed upon reports from public authorities and other officers. Admittedly therefor the counting of adult defectives was incomplete.

The following are the principal conclusions of the survey:

Out of a population of 623,000 in the six areas, 5,334 defectives (children and adults) were found, giving a rate of 8.56 per 1,000. The urban rate was 6.71 per 1,000, the rural 10.49 per 1,000. Applied to England and Wales this means 202,600 defectives in urban and 86,000 defectives in rural areas, a total of 288,600. The children include some who are described as "educationally" rather than socially "defective". Estimating these at 37,000 we have left a total of 250,000 social defectives. Again adjusting for the incomplete enumeration of adults, and children under seven, the committee reports a total of 300,000 defectives in England and Wales, a ratio of 8 per 1,000. Including the educational defectives, we have a total of 340,000, approximately.

This rate is almost twice that found by the Royal Commission of 1904. The question arises as to the significance of the difference. This is attributed in part to the superiority in method and thoroughness of the present investigation. There is a large residual, however, which the committee feels indicates a real increase in mental defect in even so short a period as 20 years. The report enumerates in detail the various selective factors that might account for the increased survival of social defectives.

Further comparisons were made in detail of the incidence of mental defect by sex, and its relative frequency in country and city. Similar studies were made concerning the various grades of defect. In fact, the volume is rich with such material, all worthy of the attention of the student of mental defect.

These statistical results were the basis of the recommendations set forth by the committee. These involve a complete program of institutional and extra-institutional care, the latter to be given in connection with the school systems. The number of such classes, the number of pupils to be cared for and the general types of curricula are gone into with minute detail.

The time may come when another survey of the prevalence of mental defect will be desirable in the State of New York. When such a time comes the present study of mental defect in England and Wales will prove a model.

MALZBERG.

Children's Behavior and Teachers' Attitudes. By E. K. WICKMAN, Institute for Child Guidance, New York City. The Commonwealth Fund Division of Publication. 1928.

The notice states that "How Teachers Behave When Children Misbehave," might well be the title of this study, the purpose of which is to inquire into the nature of teachers' reactions to the behavior and personality difficulties of children.

The work considers: Development of an experimental study of teachers' attitudes toward children's behavior, the teachers' list of undesirable forms of behavior, the incidence of troublesome behavior in school children as reported by teachers, the problem child in school as identified by teachers, teachers' reactions to behavior problems of children, differences in the attitudes of teachers and mental hygienists, a description of behavior problems in terms of social requirements, the significance of teachers' attitudes and re-education in attitudes. There are appendices on measurement schedules, and statistical data, of 42 pages.

The school teacher occupies a pivotal position in the field of mental hygiene. The teacher's recognition of behavior and personality difficulties of children offers a rich and comprehensive opportunity for constructive work in child guidance at a favorable time in the child's career. This book demonstrates, through an experimental inquiry, what particular problems in children teachers now consider to be important, and how the typical school room attitudes toward such problems have developed. The study shows how these attitudes of teachers are in contrast with those of mental hygienists, and offers a program for teacher training in the recognition and treatment of children with social and emotional difficulties.

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News in Defectology. Collected Papers from the Neuropsychiatric State Academy and the State Institute of Reflexology, Leningrad, 1928.

This book contains a number of articles dealing with the study of defect in children. In an article by Punina-Griboiedoff a resume is given of ten years' study of defectology and pedology among the children in Leningrad,

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especially in regard to their abilities, school progress, neuropsychiatric health and their professional inclinations and tastes. The principle was worked out by Professor Griboiedoff, organizer and director of the institute for child research. This institute consists of several departments, the medical pedological clinic where children are accepted for re-education or furthering education and treatment. They are kept there for about three years, sometimes longer. The adjustment of the children is carefully studied. They are divided into groups according to their social biological personality traits. The main aim of this department is to develop in the child, who is considered as a pupil there, a critical attitude toward himself and the environment, he is helped to develop insight into the conflict which has been produced by previous conditions and also helped in his attempt to free himself from it by different methods such as rationalization, self-re-education and by aid of sublimation. The children of both sexes are kept together with the purpose of adjusting them to a normal sexual life, lessening the callousness of the purely masculine organizations and increasing the initiative of the purely feminine organizations. In this department there are a number of sub-divisions, such as a pre-school division for children who have reached the age of eight and above but who are physically and intellectually still at the pre-school level. Further there is the individual group especially for the phrenasthenics. Here particular attention is paid to occupational education and development of art instincts such as painting, singing, etc. There is further the lower school group for neurotics and psychopaths. The higher school group is for children from 13 to 16 years of age and has the usual curriculum of a normal school. The main problems are the following: Removal of a child from the environment which helped to develop disturbances in the higher neural activities which handicapped a normal social adjustment. Further the constant pedological observation during the period of education in the group for future avoidance of anti-social tendencies. Great attention is laid to the physical working regime and to self-government connected with political education which would give an opportunity for higher sublimation; further—physical training and other therapeutic measures including psychotherapy, electrotherapy are applied.

In the pedological laboratory a study of the physical habitus and a psychological study of the child is made. This laboratory is fitted out with all the up-to-date instruments for measurements. There the children are also analyzed as to their sexual constitution, pre-genital organization and repressed complexes.

The medical pedological ambulatory is for outside patients. Problems of the child are studied and it is decided as to whether the child is to be

placed in the previously mentioned department or directed in a special school, hospital or sanitarium. Finally there is the psychotechnic and psychorotation department for a psycho-technical observation of gifted children. Professional inclinations of these children are then defined.

In an article by Polman the reaction types of school-age children in their social relations are discussed. The author made an attempt to study with the help of written questions the reactions to the offense of stealing of a group of 789 children of the school age (from 9 to 16) in approximately equal proportions of boys and girls. The material is worked up along the classifications of the reaction-types by Baumgarten. The following groups have been established. A. The affective group. a. Active. 1. Similar reactions: where the reaction follows immediately and impulsively without thinking as an immediate explosion. 2. Increased reaction where the offense is returned in a higher form. 3. Bodily reaction with fistie encounter. 4. Reaction which is connected with consciousness of own helplessness. b. Passive. 1. Affects without external reactions. 2. Reactions with hostile emotions. 3. Reactions of rationalization. 4. Reactions of indifference.

Pohlman obtained the same reaction-types but a different percentage of the individual types. He also undertook a study in the same group of children from the point of view of their pedological characteristics and the state of their nervous organization and attempted to correlate all the data, that is the reaction types, the characteristics and the nervous system. He concludes that there is a definite relationship between the reactions of the child and the individual irritations. There is also a very close relationship between the system of reactions and the state of nervous system on one hand and with the pedological appreciation of the reactions of behavior on the other hand. The study of the type of reaction in children in their social contacts is experimental in character and gives an idea of the behavior of the child under all circumstances.

This study should have considerable significance for practical pedagogy and will help a great deal in the study of the personality of the pupil. Maximum attention, the author thinks, is usually paid to his abilities and progress and very little attention is given to the study of his reactions.

Rubascheva deals with methods of "natural experimentations" in normal and pathological children of pre-school age. The degree of intellectual development is studied with the aid of the following psychological basal processes namely: Degree of imagination, mental tension and memory, thinking capacity, regulation, movement, etc. The following problems were given. 1. Writing a poem. 2. Drawing a figure of an elephant. 3. Description of a stuffed goose. 4. Repetition of short stories. 5. Solution of a problem. 6. Composition of a sentence from three given words. 7. Making

a notebook out of paper. 8. An explanation of how to start a fire in a stove. 9. Physical exercises. Classification in the following three intelligence grades are made from the results of the studies: Above normal, normal, diminished intelligence and deficiency.

In a paper by Nikitina and Reinhardt, results are presented of tests of quickness of resolution, movement of normal and maximal speed, motor blocking, coordination of hands and eyes, keenness of observation, and self-confidence and stability. These tests were performed on normal school children and also problem children.

In an article by Sokolskaia dealing with psychoanalysis of vagabond children, the author submitted to analysis some literary work of Russian and foreign writers and also gave the results of analysis of 95 vagabond children selected among the 1,025 inmates of the child study institute. There were 75 boys and 20 girls; 31 per cent were mentally under-developed, 5 per cent epileptics, 14 per cent neurotics, 2 per cent schizophrenics and 42 per cent so-called degenerative psychopaths.

In an article by Levin a collective study of intelligence is made on a group of pre-school and school children of normal and abnormal status. An attempt was made to represent the structure and the content by four different group methods of intelligence testing on 15,000 pupils from different schools in Leningrad. The children were divided in normal, sub-normal, mental defectives and problem children. So far age-norms and correlation co-efficients have been obtained. The methods included children from 4 to 16 years of age.

In an article by Scherschen a pedological study of the social environment was reported. This included a study of all the influences which may affect the child. The social situation is represented in a graphic form which is supposed to afford easy and quick orientation. The social diagnostic profile consists of 35 individual components of the environment which are divided into three groups and which correspond to five periods of the child's development. First the embryonic period, then the breast feeding period, kindergarten period, preparatory school period, and school period. This profile is a quite complicated one and the numeric representation is very difficult to grasp.

Pohlman in cooperation with the psycho-neurological academy has worked out a pedological card for use in research work and also for use in schools. Social environment, physical status, school progress, traits of the pupil as given by the teacher, and results of the tests of intelligence are noted. Special note is made of the social relationship and the family life.

Malygina made a Binet test on 100 blind children and found them somewhat backward in development. All the tests for rapidity of grasp were

difficult for them. Their vocabulary seemed to equal those of other children. The memory for sentences is somewhat diminished especially the mechanical memory. She came to the conclusion that blindness does not diminish the I. Q., but diminishes social adaptability and school progress.

NOTKIN.

Prescribing Occupational Therapy. By Dr. WILLIAM RUSH DUNTON.

144 pages. Charles C. Thomas, Publisher, Springfield, Ill., and Baltimore, Md. Price \$2.10.

The promoters of occupational therapy have been insisting for many years that this branch of therapeutics like other branches should be under the guidance of physicians, that the treatment instead of being of general application should so far as possible be specific. To secure these ends it is essential that occupational therapy be definitely prescribed by physicians, that the effects of the treatment on each patient be carefully watched, and that the prescription be changed whenever indicated.

The difficulty experienced in reaching such ideal has been the lack of definite knowledge on the part of physicians. Medical schools as a rule give little attention to occupational therapy and the literature on the subject has been designed principally for occupational therapists rather than physicians. Dr. Dunton's new book on "Prescribing Occupational Therapy" is therefore of great significance. It may not tell the physician all he ought to know about the subject, but it does give him a great many ideas and suggestions, which added to a fair measure of common sense would enable him to write prescriptions without serious blundering.

Dr. Dunton has been studying and applying occupational therapy for many years. He is editor of "Occupational Therapy and Rehabilitation" and has probably written more on the subject than any other physician in America. From the wealth of his experience he has given freely in this latest production. The book is condensed but comprehensive; and the discussions brief but adequate. The application of occupational therapy in the various types of institutions is well covered, a chapter being devoted to each type.

The book should prove a boon to the physician who is seeking more light in his efforts to find the most efficacious means of applying occupational treatment to the patients in his charge.

POLLOCK.

Ethics and the Art of Conduct for Nurses. By EDWARD F. GARESCHÉ, S. J. M. A., LL. B. Published by W. B. Saunders Company, Philadelphia, Pa. 12 mo. of 341 pages.

This is an entirely new book on the old and interesting subject of moral philosophy or the science of human conduct. The purpose of ethics as seen by the author is expressed in the following paragraph:

"Ethics point out to us that we cannot be completely and supremely happy until we have obtained our last and Supreme End, for the possession of which we were created. This End is God Himself, Our Creator."

The book is divided into three parts. Part I deals with the science of ethics or that study which gives a definite and systematic knowledge of the right principles of action. Part II treats of the art of conduct or the application of these principles to the specific problems of the nurse. In other words Part I explains the "why" of right or wrong actions, while Part II makes clear "how" and suggests definite means for putting into practice the teachings of ethics. Part III or "Points and Papers for Discussion," was added to the book that the student might make a private review of each chapter and also to aid the instructor in testing the students' comprehension of the subject.

The book is written very clearly and simply in a style that holds the reader's attention. Both student and graduate nurses will find the book of help in clarifying problems met with in their work. It would be a valuable addition to any training school library. However as a text book, it could best be used in schools of nursing connected with Catholic institutions since it treats many of the problems from the Catholic viewpoint.

LEO P. O'DONNELL.

Questions and Answers for Nurses. By IRENE V. KEELLEY, R. N., Assistant Director of School of Nursing and Instructor of Principles and Practice of Nursing at Mount Carmel Hospital, Columbus, Ohio. 12 mo. 354 pages. W. B. Saunders Company. Philadelphia and London. Price \$2.50.

In order to teach the student the proper form of answer when writing the old or essay type of examination, and to afford material assistance to the graduate nurse in preparing for State boards, the author has provided many questions with appropriate answers.

There is a review of ethics, history of nursing, chemistry, anatomy, physiology, bacteriology, materia medica, therapeutics, dietetics, bandaging, massage, laboratory technique, nursing in general medical diseases and in the specialties, pediatrics, infant feeding, first aid, psychiatric nursing, etc.

In fact, practically all of the subjects of the curriculum of schools of nursing are included. The general arrangement and a satisfactory index make the book a good one for easy reference. Obviously, with so many subjects, all cannot be fully covered. The questions asked, however, are practical and the answers as a rule satisfactory.

In Part One we find an excellent arrangement of the new objective type of examination, namely, the "completion test", the "recall type", the "recognition type". The author illustrates by various questions and shows in detail how the student should complete the paper; full and clear explanations are given so that there can be no difficulty understanding these modern methods which are more and more being adopted and used by schools of nursing and by State Board examiners. In order to be properly prepared it is essential that students become thoroughly familiar with these new forms of examination.

Miss Kelley's book will be helpful to the nursing profession and more especially to the student nurse.

TADDIKEN.

Health and Wealth: A Survey of the Economics of World Health. By LOUIS I. DUBLIN, Ph. D. 361 pages. Harper & Brothers, Publishers, New York and London, 1928.

Health may be—more likely it should be—a desideratum in itself. Nevertheless, there are serious social consequences, which make the problems of ill health of practical and economic interest. The cessation of individual income may mean nothing more than the curtailing of luxuries for some but for others, especially when marginal existence is the rule, low income has serious effects.

It has become semi-fashionable to attribute fluctuations in individual income or wages to the effect of the business cycle. Yet it is probable that more people are affected by fluctuations in the state of their health. Illness means absence from work, and to most wage-earners this means loss of wages. From this point one may trace the vicious circle of illness and poverty.

Sickness, therefore, has a real relation to wealth. The sick not only become non-producers but they necessarily consume the products of past industry. The more wide-spread sickness becomes, the greater will be its effect upon national wealth, and per contra, the less illness in the community, the greater must be the surplus of national and individual wealth.

The purpose of Dr. Dublin's study, therefore, is to trace the social effects of illness, and to suggest methods of improving the public health.

The volume begins with an estimate of the economic value of an individual. This underlies the concept of the economic utility of health. The value of such an approach is familiar to readers of the *PSYCHIATRIC QUARTERLY*, for in the April, 1929, issue it was used by Dr. Pollock in estimating the economic loss due to mental disease. Closely associated with the loss of income is that of the actual cost of medical care. The rising costs of such treatment constitute an acute economic problem to both the practitioner and the patient. In a chapter on the cost of medical service, Dr. Dublin analyses very carefully all the costs entering into treatment and suggests methods of group medicine whereby the interests of both the patient and the physician may be conserved.

From discussion of such broad economic questions, Dr. Dublin proceeds to review the statistics of heart disease and cancer. Both are rapidly increasing despite otherwise improved conditions of health. Curiously enough the latter is the cause of the increasing death rates due to the degenerative diseases and Dr. Dublin explains the relationship very adequately.

In a lengthy chapter on the declining death rate from tuberculosis, Dr. Dublin proceeds to uphold the viewpoint of the environmentalist as against the eugenicist. It is a chapter well worth reading, for it probably sums up the public health movement more adequately than has heretofore been done.

Chapter XII on the relation of prohibition to public health sets forth a mass of well-digested statistics tending to show improved conditions in children and women contrasted with rising death rates among adult males. Both conditions are directly attributed to use on the one hand, and the abuse on the other, of prohibition. It does not seem that one need necessarily agree with the author's conclusions, which here seem to outrun the facts. The latter, however, remain a valuable contribution to the subject.

Other discussions of health deal with the negro and with the industrial worker. The former is of especial interest as the status of the negro has changed considerably as a result of the war.

Broader questions of health are considered in chapters on birth control and the rate of natural increase. Dr. Dublin and Dr. Lotka have made very valuable contributions to our knowledge of the birth rate and have shown that the present rate is largely spurious due to the effect of immigration and earlier high birth rates. The true birth rate being actually lower, the question of the increase of population must take on other aspects. Dr. Dublin is not sympathetic to the birth control movement and bases his opposition on the fear that we are rapidly approaching the position of a stationary population. Despite the lowering of the death rate, he even foresees the possibility of a decrease of population. Obviously the problems are of fundamental importance. Whether or not one agrees with these gloomy views on

this subject, one must nevertheless be grateful for the new statistical light cast upon the question.

It appears evident, therefore, that this volume treats of questions of fundamental importance and is well worth the attention of every serious student. The reading is all the easier because of a fine style of writing. In closing the reviewer wishes to thank the publishers for their use of the excellent type which makes a minimum strain upon the eyes. This appears to be the publishers' tribute to the author's ability as an advocate in the field of public health.

MALZBERG.

DEATH OF DR. CROSSMAN, MEDICAL DIRECTOR OF U. S. VETERAN'S BUREAU

Dr. Edgar O. Crossman, medical director of the U. S. Veterans' Bureau, died at his home in Bedford, New Hampshire, on the morning of June 21, 1929, after a brief illness from cerebral embolism. He was at his office at the Bureau as usual until a few days before his death. Funeral services were held at Bedford, New Hampshire, on June 25, and interment was at Arlington National Cemetery, Washington, D. C., on June 26, with full military honors.

Dr. Crossman was born on December 15, 1864, at Ludlow, Vermont. His early education was obtained in the public schools of Plymouth, Vermont. He received his academic education at New Hampshire State College and his medical education at the University of Vermont from which school he graduated in 1887. He was professor of psychiatry in the Medical Department of the University of Vermont from 1916 to 1925.

Dr. Crossman practiced medicine in New Hampshire and occupied a prominent place in the professional as well as in the political activities of this State. He was a member of both the upper and lower houses of the New Hampshire State Legislature. He was collector of internal revenue of the New Hampshire District for nine years during the administrations of Presidents Taft and Roosevelt. He was president of the State Council of Charities and Correction, past president of the New Hampshire Medical Society, a member of the American Medical Association, American Psychiatric Association, American College of Physicians and the Association of Torch Clubs.

During the World War, he served as major in the Medical Corps of the United States Army and after his discharge from the Service, he became connected with the U. S. Veterans' Bureau of Manchester, New Hampshire, later being assigned as district manager of the U. S. Veterans' Bureau with headquarters at Boston, Massachusetts. His outstanding executive as well as professional abilities were noted by General Hines, director of the Bureau and in 1924 he was invited to come to Washington as medical director.

During his term of office as medical director, he put into effect a great many constructive policies. He was instrumental in organizing the Medical Council of the U. S. Veterans' Bureau, which is an advisory agency consisting of some of the foremost physicians and scientists of the country. He recommended the establishment of diagnostic centers, the U. S. Veterans'

Bureau post-graduate schools, and the publication of the U. S. Veterans' Bureau *Medical Bulletin*.

Plans had been completed by him for an extensive inspection trip throughout the country, but almost on the eve of his departure, they were canceled by his sudden illness. He was to have read a paper before the section of Nervous and Mental Disease of the American Medical Association in July upon the activities of the medical service of the U. S. Veterans' Bureau.

Dr. Crossman was a man of exceptional ability and had a wide field of operation in his professional and official life. He had a genial personality which impressed all with whom he came in contact, whether the relation was of a casual or intimate nature. With all of his inherent courtesy, Dr. Crossman was endowed with a forcefulness of purpose and with strong convictions which were reached after careful and intelligent deliberation.

He was beloved and respected by all who knew him, and his sudden death, at a time when he apparently had many years of usefulness ahead, comes as a shock to all.

ANNUAL MEETING OF THE AMERICAN OCCUPATIONAL THERAPY ASSOCIATION

The American Occupational Therapy Association held its 13th annual meeting at Atlantic City, June 17 to 19, 1929, in conjunction with the meeting of the American Hospital Association. The headquarters were in the Chelsea Hotel but the various sessions and the exhibits were held in the magnificent Convention Hall, which had just been completed.

The meeting was distinguished by several noteworthy features. The registration reached nearly 300 and was said to be greater than that of any previous meeting. The exhibit, in charge of Miss Harriet A. Robeson, was by far the best ever conducted by the association. It was given a prominent place in the scientific section of the exhibit of the American Hospital Association and attracted a great deal of attention. The exhibit of the New York State hospitals was exceptionally effective.

The sessions were well attended and proved of great interest to the members. Dr. C. Floyd Haviland, president of the association, conducted all of the meetings and gave a noteworthy presidential address. Other addresses of unusual interest were given by Dr. René Sand of Paris, who was guest of honor at the annual banquet, Dr. Goldwyn Howland of Toronto, president of the Canadian Occupational Therapy Association; and Dr. Henry I. Klopp, of Allentown, Pa.

The business session was featured by the report of Mr. T. B. Kidner on national registration of occupational therapists. Plans for such registration have been perfected by the committee and will be put into effect by the association as soon as funds therefor are available.

The officers for the coming year were re-elected as follows: Dr. C. Floyd Haviland, president; Dr. B. W. Carr, vice-president; Mrs. E. C. Slagle, secretary-treasurer.

THE ATLANTA MEETINGS

The American Psychiatric Association and the American Association for the Study of the Feeble-minded held their annual meetings in conjunction at Atlanta, Georgia, May 13 to 17, 1929. The southern members of the associations joined in extending most gracious hospitality to the members and guests from other parts of the country. The special entertainments provided by the local committee under the leadership of Dr. Owensby included a delightful barbecue at the Druid's Hill Country Club at which refreshments were served by the Coca Cola Company; a concert by the Dixie Chorus of about 50 well-trained negro singers, whose rendition of negro spirituals was received with great enthusiasm; an auto trip to Stone Mountain and through the many beautiful residential streets of Atlanta.

Many noteworthy papers were presented at the several sessions of each association. Among these may be mentioned: The presidential address of Dr. Orton: "The Language of the Psychoses by Dr. William A. White; "Post-Prohibition Alcoholic Psychoses," by Dr. William C. Garvin; "Chemical Theory of Temperament Applied to Extraversion and Introversion," by Dr. William MacDougall; "Some Psychiatric Aspects of Crowded Living Conditions," by Dr. J. S. Plant; "Some of the Psychopathology of Marital Maladjustment," by Dr. George K. Pratt; "The Relation of the Special Educational Disabilities to Feeble-mindedness," by Dr. Samuel T. Orton; "A Study of the Patients Discharged from the Rome State School for the Twenty-Year Period Ending December 31, 1924," by Professor Roy W. Foley; "A Report of an Investigation of Patients Discharged from Letchworth Village," by Dr. Harry C. Storrs.

Officers elected by the American Psychiatric Association for the coming year were: Dr. Earl D. Bond, president; Dr. W. M. English, vice-president; Dr. Robert L. Dixon, honorary vice-president; Dr. Clarence O. Cheney, secretary-treasurer; Dr. Newdigate M.

Owensby, Dr. Frank W. Robertson and Dr. M. A. Bliss, members of Council.

Dr. George L. Wallace was elected president, and Dr. Howard W. Potter, secretary-treasurer, of the American Association for the Study of the Feeble-minded.

Both associations will meet in Washington next year with the International Congress of Mental Hygiene, May 5 to 10.

ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION

The fifty-fifth annual meeting of the American Neurological Association was held in Atlantic City May 27-29, 1929. Dr. Charles H. Fraser, Philadelphia, president. The papers dealt with both neurological and psychiatric topics. One paper by Dr. Samuel T. Orton, entitled "Some Neurological Concepts Applied to Catatonia," was of particular psychiatric interest. Dr. Orton presented the theory that catatonia symptoms might be interpreted on an organic basis, arising not from gross brain lesions, but from an interference in higher cortical functions. He stated in part, "This view of catatonia as an elective loss at the highest level of cerebral elaboration and explaining the reappearance of earlier patterns of both motor and psychological types as instances of 'resurgence by defect' makes possible the understanding of the catatonic syndrome in recoverable conditions as well as those which lead to dementia. It further focuses our attention on the most recent phylogenetic structures, the great association zones, and of these particularly the frontal as the center for study. Negative histological studies of the past do not entirely exclude the possibility of true structural disorders here but beyond this there must always be recognized that certain definitely organic disturbances may not record themselves as structural alterations. Acute death in convulsions results from disturbance of the oxygen, sugar or electrolyte content of the brain fluids but leaves no structural evidence of its action. Chronic chemical or vasomotor disorders might easily reduce the functional integrity in a selective way without giving readily observable microscopic change."

The paper was discussed by Dr. Frederick Tilney, Dr. Adolf Meyer and Dr. Foster Kennedy. Dr. Tilney was inclined to agree with the main theory of the paper and cited an interesting case where the symptoms could most naturally be interpreted on this basis. Dr. Meyer, on the other hand, did not feel that there was justification for postulating an organic basis for such conditions

as catatonia wherein no organic changes can be demonstrated. He felt that such an interpretation of catatonia was a theory only. He called attention to certain hypnoidal states where somewhat comparable conditions are seen, although by no means identical in nature with catatonia. Dr. Orton in closing the discussion, stated that the ultimate goal is to determine as far as possible the underlying organic basis for all mental phenomena in as far as such determination is possible.

At the annual dinner of the association there was shown an interesting "movie" prepared in England demonstrating Harvey's discovery of the circulation of the blood.

Dr. Smith Ely Jelliffe was elected president of the association for the coming year.

NOTES

—By legislative enactment during the 1929 session of the New York State Legislature, the names of the State Department of Charities and the State Board of Charities were changed to the State Department of Social Welfare and the State Board of Social Welfare, respectively.

—Dr. David F. Weeks, of Skillman, N. J., died recently at the age of 54. Dr. Weeks was superintendent of the New Jersey State Village for Epileptics at Skillman from December 1, 1907, to his death. He achieved an international reputation for his contributions to the knowledge of epilepsy especially from the point of view of heredity.

—The new reception building of the Sheppard and Knoch Pratt Hospital at Towson, Md., was opened May 18, 1929. The occasion was marked by a celebration at which the following spoke: Dr. Edward N. Brush, Dr. Ross McC. Chapman, Dr. Harry Stack Sullivan and Dr. William A. White. Mr. A. Champlin Robinson presided.

—The United States Bureau of the Census announces the early publication of the first of its new series of annual reviews of the statistics of patients in State hospitals for mental disease. The present study covers the years 1926 and 1927 and analyzes statistics of admissions, discharges and deaths.

—Dr. George S. Amsden, director of the ward for mental cases at the Albany Hospital, known as Pavilion F, has resigned to accept the post of professor of psychiatry in the New York Post-Graduate Medical School and Hospital. He is also to direct the Schlapp Memorial Clinic at the Post-Graduate Hospital. Before taking up the new positions, Dr. Amsden is to spend a year in the clinics in Vienna and Budapest.

—A long standing source of embarrassment to the United States in its foreign relations arose from the absence of any facilities for the repatriation of insane American citizens residing abroad. This difficulty has at last been cleared up by the action of the last session of Congress which at the request of Secretary of State Kellogg passed legislation providing for the transfer of insane American citizens through the agency of the Bureau of Immigration to Saint Elizabeth's Hospital in Washington, D. C. The arrangements affect primarily the reciprocal relations of Canada and the United States.

—On April 23, 1929, the New York State Building and Sites Commission accepted a gift of 672 acres at Warwick, Orange County, from the city of New York. This made possible the realization of the plans to replace the House of Refuge on Randall's Island, New York City, an institution for delinquent boys, with a new institution at Warwick. Such a change had long been urged by interested State departments and by private organizations. The new institution will not only provide adequate physical facilities but will make possible the introduction of more efficient methods of individualization in the treatment of delinquents.

—Mr. C. Harold Smith recently offered a prize of \$1,000 for the best suggestion as to how he could spend \$10,000,000 for the benefit of mankind. The award was made to Dr. Henry E. Garrett of Columbia University, who urged that Mr. Smith's wealth could be put to no better use than in stemming "the rising tide of mental ill health, which bids fair to engulf us in the next few generations. He would establish an institute for mental hygiene where lectureships on mental hygiene could be established, where individuals could come for aid and treatment and advice and where research could be made into causes of the psychoses and neuroses."

—In October, 1927, Dr. William J. O'Shea, superintendent of schools in New York City, appointed a committee to study the problem of delinquent girls in the public schools. A preliminary report recently submitted shows that most of these girls are from 13 to 15 years of age, and are found in the fifth and sixth grades indicating a retardation of three to four years. Among the chief causes of delinquency, the committee enumerates lack of parental control, economic conditions and vicious environment. Among the recommendations were the following: Increase in number of visiting teachers; increase in ungraded classes for older girls; increase in psychologists in the elementary schools, and the establishment of behavior clinics in the various boroughs.

—Dr. James L. McCartney, who for the past year has been a Fellow in Psychiatry of the National Committee for Mental Hygiene, at the Institute for Child Guidance, New York City, has been appointed chief of the Division of Mental Hygiene of the Connecticut State Department of Health, with offices at 8 Washington St., Hartford. This is the first time that a full-time psychiatrist has been in charge of this division, and an extensive mental hygiene program is to be carried out.

Before coming to New York, Dr. McCartney was on the staff of St. Elizabeth's Hospital, Washington, D. C., and had done neuropsychiatry in private practice for a number of years. He also did post-graduate study in Europe.

—President Herbert Hoover has accepted the position of honorary president of the First International Congress on Mental Hygiene, which is to be held May 5-10, 1930, in Washington, D. C.

At the meeting of the Committee on Organization, April 26, 1929, the officers of the Congress were duly elected. Dr. William A. White was named president and Mr. Clifford W. Beers, secretary. The following were elected vice-presidents: Grace Abbott, James R. Angell, Dr. Earl D. Bond, Dr. Hugh S. Cumming, Dr. Charles H. Frazier, K. S. Lashley, Dr. Adolf Meyer, Dr. George L. Wallace, Dr. William H. Welch, Hon. Ray Lyman Wilber. Dr. Arthur H. Ruggles was named chairman of the Committee on Organization, and Dr. Frankwood E. Williams, chairman of the Executive Committee on Program.

—Mr. Sanford Bates, Commissioner of Correction of Massachusetts since 1915, was appointed superintendent of prisons in the United States Department of Justice, and assumed the duties of the new post on June 1, 1929. His functions will include the administration of five large Federal prisons, and the expenditure of approximately \$10,000,000 annually. It is expected that he will devote special attention to the problems of parole and probation.

Mr. Bates has had a distinguished career in Massachusetts where he had long been active in the development of the science of penology. He has been associated with the American Prison Association as president and vice-president, and with the American Institute of Criminal Law and Criminology. Through the latter he was especially influential in the preparation of standardized statistics of crime.

—At the 137th Annual Commencement of the University of North Carolina, the honorary degree of LL.D. was conferred on Dr. George H. Kirby, who graduated in the class of 1896 with the degree of B. S.

In conferring the degree, the president of the university referred to Dr. Kirby's career as follows.

"George Hughes Kirby, B. S., the University of North Carolina in the class of 1896, M. D. Long Island College Hospital Medical School, 1899, Professor of Psychiatry in the College of Physicians and Surgeons of Columbia University and Director of the New York Psychiatric Institute, in recognition of your eminence in the science of mental diseases, particularly of your skill in organizing scientific and social forces for the relief of human suffering, your Alma Mater confers upon you the degree of doctor of laws."

—At the request of the Board of Managers of the Buffalo City Hospital and of the finance committee of the City Council of Buffalo, a survey of the Buffalo City Hospital was made by the Buffalo Municipal Research Bureau, Inc. The investigation disclosed that there was a satisfactory ratio of hos-

pital beds to population in the city of Buffalo, but that the ratio was low with respect to the entire county. The average hospital stay exceeded that shown in similar hospitals due to the fact that the hospital has no outlet for many chronic patients. The demand for the care of committed alcoholics and drug addicts has increased. The percentage of free service has been decreasing. The patient-day cost is low. Patient mortality has increased during the past 5 years.

Among the chief recommendations were the following: The reorganization of the city hospital into a division of professional care of patients, and another for business management; the establishment of a community hospital council, employment of more graduate nurses; re-establishment of a training school for nurses at the University of Buffalo; establishment of a county convalescent home; consolidation of all laboratory service under a single director responsible to the superintendent, and approval by the city of a bond issue for \$1,000,000.

—The Sub-Committee on Employment of the New York City Committee on Mental Hygiene recommends the following program for the employment of mental patients:

1. The establishment of a sheltered shop for mental cases which will serve two types of patients; (a) male psychoneurotics and parole cases in need of temporary placement in an adjustment work shop for a period of restraining prior to entrance into regular industry; (b) patients who are unemployable in industry but capable of supporting themselves either wholly or partially in a sheltered environment.

2. The assignment at each State hospital of a full-time social worker to carry on placement work. Such a placement worker should have definite training in the technique of placement.

3. The increased utilization of private and general hospitals and institutions of all types as places for employing mental cases in need of close supervision and sheltered environment.

4. The utilization of industrial training available within the State hospitals for recoverable cases rather than for chronic cases, as a method of effecting a speedier re-entrance into industry after hospitalization.

5. The establishment of an employment service for mental patients in the community who do not need placement in sheltered shops.

—The year 1928 closed a quarter of a century since the enactment of the law governing the practice of nursing in the State of New York. In her report for 1928 issued by the State Education Department, Miss Harriet Bailey surveys the interesting history of the development of State registration of nurses and schools of nursing. Among the data presented are the

following: The students in registered schools have increased from 4,200 in 1918 to 7,920 in 1928. In 1920 the entering students numbered 1,624; in 1928, 4,154. The number of new students with college training has remained the same during the past three years; those with complete high school education increased in the same period from 36 to 42 per cent; those with 3 years high school have increased from 8 to 9.8 per cent; there was an increase from 15.6 to 15.9 per cent in those with 2 years high school training, and there has been a decrease of 1 per cent in the number of those with only 1 year in high school and a decrease from 6 to 2 per cent in those rated as having "equivalent" training. Some interesting statistics are shown with respect to failures. In 1928, 1,143 students left school. Of these, 25 per cent were not fitted for the work; 15 per cent were ill; another 15 per cent left because of home conditions or personal reasons, and 13 per cent were found undesirable or incompetent.

The annual registration of nurses increased from 12,524 in 1921-1922 to 29,283 in 1927-1928. Of the latter total, 59 per cent were engaged in private duty; 21 per cent in institutional service; 32 per cent in public health work, and 1 per cent in tuberculosis work.

In the entire State there was an average of 1 registered nurse to 474 persons. New York County had 1 to 234; Ontario 1 to 244; Seneca 1 to 251, and Westchester 1 to 265. Counties with low ratios were Schoharie 1 to 4,313; Orleans 1 to 3,836; Hamilton 1 to 2,121.

—In the issue of the Archives of Neurology and Psychology for March, 1929, there is a report of the dedication of the Institute for Research in Psychiatry in Munich, on June 12-13, 1928. This important event in the history of psychiatry marked the fulfillment of the dream of Professor Kraepelin, whose vision and faith in psychiatric research were responsible for the Institute. During the war and the inflation period that followed, Kraepelin struggled against tremendous odds to keep the idea of the Institute alive. To the regret of all he was not to live to see the triumph of his idea. Americans will experience a feeling of warm satisfaction, when they learn that it was a gift of \$325,000 from the Rockefeller Foundation that made possible the completion of the Institute.

The work of the Institute as conceived by Kraepelin was described as follows: "This Institute was to be a foster-mother to the sciences related to clinical psychiatry. Just those subjects which only came near to the psychiatric clinic and could not be supported in an adequate way, are to be the chief concern here, i. e., anatomy, physiology and biology, especially histopathology, serology, experimental therapy, microbiology, chemistry and heredity.

"The Institute is a laboratory building without space for patients * * * Kaepelin arranged with the city of Munich that a great clinical department should be established near the Research Institute.

"The different departments enjoy complete independence. But with all the independence, he saw in the intimate association of the different departments the prerequisite of success. Each department head must be imbued with the importance of unselfish and trustful cooperation * * * The department heads are equal, at certain periods one of them takes over the administration, as director, for several years.

"The number and kind of departments * * * should * * * have no rigid and unchangeable form. The organization should remain elastic; the circle should broaden and change according to the need, according to the changes of knowledge with time, according to the personalities of the men obtainable for the work."

The new building, a five-story structure, contains about 100 rooms. The ground floor is used by Prof. Rüdin in his work on inheritance. Here also are conducted the anthropological and statistical studies of nervous and mental diseases. On the next floor are the laboratories of Prof. Plaut and Prof. Jahnel, where serologic and bacteriologic studies of syphilis are being conducted. The anatomic and histopathologic departments occupy the third floor; the library and reading room are on the fourth floor. An animal house in the rear of the Institute is connected with the latter by a passageway. Clinical associations are assured by the close proximity of the great general hospital of North Munich.

That the Institute will attract foreign students is already attested by the fact that at the time of the dedication eight young neuropathologists from other countries were studying there.

The first award of the Kraepelin medal for distinguished research in psychiatry and neurology was announced at the dedication exercises. The recipient was Professor Vogt of Berlin, who was honored for his contribution to the knowledge of the cortex.